

amateur radio

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA



VOL. 47, No. 6

JUNE 1979

FEATURED IN THIS ISSUE:

- ★ RTTY IS FUN
- ★ DETERMINING ANTENNA SURFACE AREA
- ★ SCANNER FOR THE ICOM IC22S
- ★ ARE YOU INSURED?
- ★ JOHN MOYLE MEMORIAL NATIONAL FIELD DAY 1979 RESULTS

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Cover Photo

The photograph shows Peter Schulz VK7PS, an active radio amateur and keen bushwalker combining both hobbies as he makes a contact via the Mt. Wellington repeater from the summit of Forty Lakes Peak in Tasmania's Great Western Tiers.

Photograph: WINSTON NICKOLS VK7EM

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QSP — CONVENTION PRESS RELEASE

The following includes the text of a Press Report issued for the 1979 Federal Convention held in Melbourne 28th to 30th April:—

"The Minister for Post and Telecommunications, the Hon. A. A. Staley, last Sunday, April 29th, clarified several points of concern which affect amateur radio operators throughout Australia.

"Speaking at Brighton (Victoria) at the Annual Federal Convention of the Wireless Institute of Australia, Mr. Staley assured the delegates from all States that it was the Government's intention to restrict the installation of Channel 5A TV transmitters to those services for which large financial commitments had already been made and confirmed the policy of

using UHF channels for ethnic television services.

"A number of other complex technical problems associated with the proximity of television transmission frequencies to internationally allocated amateur radio frequencies were also discussed and clarified. These problems relate particularly to Channel 0 and Channel 5A.

"During his address, Mr. Staley paid tribute to the Wireless Institute of Australia for the way in which the Institute had prepared the case for the amateur service for consideration at the World Administrative Radio Conference (WARC '79) to be held in Geneva from September this year.

"Mr. Staley said that the amateurs of Australia had been outstanding in qualifying their needs and requirements and he was surprised at the way in which the amateur delegates to WARC '79 had worked in collaboration with his Department in preparing Australia's submission to this most important Conference which will determine the pattern of world radio communications into the 21st century.

"Referring to continual experimenting by amateurs over the world, which has led to the development of many new communication techniques, Mr. Staley said 'We must have diversity in communication — we can no longer rely on traditional means; and the amateur service plays an important role in this regard'.

"The Wireless Institute of Australia, the official body of amateur radio operators, is the oldest amateur radio association in the world. Formed in 1910, it pre-dates the United Kingdom body by three years and the United States by five years.

"In the 68-year history of the Wireless Institute of Australia, this is the first time that a Federal Minister has addressed the Annual Convention."

In addition, the following subjects were discussed with the Minister:—

Pensioner licence fee concessions.

Regulatory matters including the new Handbook and the proposed new Radio Communication Act.

Definition of television broadcast service areas and the possibility of a Radio Frequency Advisory Committee for Australia to increase awareness of Spectrum Management problems.

The form of discussion allowed direct questioning of both the Minister and his First Assistant Secretary, Mr. Wilkinson, who also attended.

It is not possible in this statement to present the wealth of information made available. However, details will be forthcoming through normal channels such as weekly broadcasts, Amateur Radio magazine and Divisional meetings.

The Council expressed its appreciation to the Minister for both his and Mr. Wilkinson's attendance at the Convention. ■

WIANEWS

1979 CONVENTION

As this is being written the day following the close of the 1979 Federal Convention it will be possible to include some details of it.

The Minister for Post and Telecommunications, Mr. A. A. Staley, joined the Convention delegates as a guest for dinner on Sunday, 29th April, along with Mr. Jim Wilkinson, First Assistant Secretary, Radio Frequency Management Division of the Department.

During his speech, introduced in a witty and interesting preamble, the Minister made many references to the Channel 5A situation as may be seen in the Press Release published elsewhere in this issue. Much other information of interest to the amateur service came from his address and from the question and answer forum which followed.

When the Minister observed the reaction to the first mention of the Handbook it was clear to him that the Institute was dissatisfied with the draft presently under preparation for printing. He ordered it stopped, if this could be done at this late stage, to enable further representations to be made by the WIA. The virtues of self-regulation appeared to be shared by everyone present, particularly the guests.

Some other questions were answered, including the proposed new Radio Communications Act and the desire of the Institute to be granted some involvement before finalising this legislation, the possibility of a Radio Frequency Advisory Committee for Australia and the great awareness by the Minister and his Department of the continuing valuable contributions towards WARC 79 by the WIA representatives. Questions were asked about the schedule to the latest Amateur Station Licence Form RB94 (June 1978), which specifies the authorised receiving frequency bands — e.g. 7.00 to 7.15, but does not authorise the amateur operator to listen for USA stations on their authorised frequencies between 7.15 and 7.30: A discussion highlighted the impossibility of controlling receivers (general coverage and other) and the not of listening outside the amateur bands, whereas concentration should be given to persons using information obtained from listening (which accords with the spirit of ITU RR 5195(724)).

The long delays experienced in many places between passing an exam and the issue of a licence came in for criticism. "Over the counter" licensing in Victoria was instanced as an example of the measures which could be taken.

Two final questions before concluding this short report. Reduced licence fees for pensioners — promised in a letter of 19th

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October, 1976 — appears to have become nullified by re-investigation and an early reply is not now to be expected. A discussion about interference by, and to, Channel 5A TV, brought out recognition that the receiver is very largely the culprit, defined TV station broadcast service areas are proposed to overcome the problems of interference in "marginal" reception areas and that the "ethnic" television service will definitely go to UHF.

It was indeed most heartening to be made aware of the Minister's considerable knowledge about WARC 79 preparations and it was obvious to delegates that he had either been briefed in great detail or had been kept fully informed about them.

The Convention dealt with 34 Agenda Items, 10 general business items, 2 special resolutions, several routine items and 18 annual reports, in addition to detailed explanations relating to WARC 79. The work was facilitated by the appointment of 5 working groups. The Convention went into Committee for debate on other matters.

Perhaps of interest to members' pockets, the Finance Subcommittee presented a budget for 1980 which was adopted subject to review, as usual, by 31st August. In it no increases in Federal dues were proposed provided the rate of increase in new members is maintained. A study of the latest 1979 figures revealed the possibility of a small deficit in funds available for WARC 79 after a decision had been made that Mr. Michael Owen VK3KI be an additional amateur delegate for the Australian team. This step was considered essential based on latest advice and strong recommendations from experts in ITU General Conference proceedings. It was the unanimous agreement that no stone be left unturned to ensure the fullest possible involvement of the amateur radio service in this vital Conference. Note was also taken of the absolute necessity of continuing amateur involvement during the years succeeding the Conference.

The appointment of Executive members for the ensuing year resulted in only two changes—Mr. Courtney Scott VK3BNG comes on as Federal Treasurer, and Mr. Harold Hepburn VK3AFQ replaces Mr. Graeme Scott, who resigned through pressures of business, although he hopes to continue his work in the Federal sphere as Federal Education Co-ordinator to provide continuity.

The delegates were very pleased to welcome Mr. Jack Hum G5UM as a guest for a short time during the Convention. Most old-timers will know Jack's involvement with the RSGB over many many years and his expert knowledge in the VHF/UHF/microwave regions of the spectrum affecting ITU Region 1 and the UK in particular. Never were so many Divisional Presidents and past Presidents represented as at this Convention, including visits by Mr. Eric Buggee VK3ZZN, the VK3 President; Six out of the seven Divisions were so represented. Others attending the Convention included Michael Owen VK3KI, Bruce Bathols VK3UV, Bob Arnold VK3ZBB (Satellites and Project Aseri), Alil Chandler VK3LC (foreshadowing retirement as Intruder Watch Co-ordinator by the end of the year) and Ron Henderson VK1RH in his dual role of VK1 Federal Councillor and Federal WICEN Co-ordinator. VK3SP kindly found time to attend and provide most valuable advice in the international sphere. Amongst other votes of thanks, mention must also be made of (a) the impending retirement from active participation in Institute affairs of Ray Jones VK3RJ, after 50 years service in the QSL field, and (b) Keith Roget VK3YQ/YJ8,

the former Federal Treasurer, for his work on the financial side of affairs.

Two new Annual Reports taken at this Convention were those from the Federal Videotape Co-ordinator, John Ingham VK5KG, and the Federal RTTY Co-ordinator's report done by Peter Mulligan, VK2ABH.

In this news report it is impractical to review all the Agenda Items but a few have been selected as being of probable general interest. Proposals to admit Australia-wide special groups (e.g. Old-Timers) for affiliation were referred back to the Executive for further review and report. An item dealing with proportional voting lapsed for want of a seconder. A position on 10 metre band beacons was adopted with a reminder to Novices to leave the beacon frequencies clear as far as possible (28.2-28.3 MHz segment). Channel numbering in the FM portion of the 2 metre band shall be in a 4 digit number based on frequency—repeaters identified by output channel number—VK4 were opposed to this and abstained on the similar system for 70 cm. A band plan for the FM portion of the 2m band (146-148 MHz) was adopted.

A working group spent much time debating the future of AR and the related subject of the Executive office. It was decided that a second full time employee should be employed primarily for AR duties. A motion that Federal Convention Minutes be made available to all affiliated clubs was withdrawn when the debate determined the fact that this was essentially a Divisional responsibility. A proposal for an international amateur licence/certificate along the lines of the international driver's licence was passed. Almost an annual motion seeking higher Morse speed examinations for reciprocal licensing problems was again passed.

Motions to request more frequent Morse and other exams were again passed, in addition to exams outside normal working hours. Work is to begin on seeking the issue without fees of the suffixes WIA to WIZ on a national basis for special purposes, and that WICEN exercises should be authorised by the appropriate Statutory Authorities instead of the Department as in the past. A motion to press for By-law imports of transmitters and equipment for use on frequency bands above 2m was passed but importers of such equipment are to be encouraged as a first step to take the initiative themselves.

It was resolved that the most effective use for the \$3500 received for education purposes was the instigation of the production of a set of educational/promotional videotape masters. It was also decided that such monies should be put into an Education Resources Development Fund/Provision. The Executive were authorised to examine the desirability of printing an annual call book. Various modern production methods for the call book were studied in addition to a short debate about the contents.

Arising out of Annual Reports it was noted that the Federal Contest Manager proposes to seek, through the pages of AR, membership opinions on various contests and rules.

Under the heading of general business items several were withdrawn, some for one reason, some for another. Passed was one requiring Executive to establish criteria for Convention Agenda Items; there was also a reminder to submit them much earlier each year so that they can be printed in AR for members' comments beforehand.

A more detailed report will be prepared for the next issue of AR.

QSP

NOTHING NEW?

Aerials have always been a topic of great interest among the radio community. The "Electrical Experimenter" of June 1918 reported that Major Squier, US Signal Corps, had discovered that live trees could be used as aerials. Communications between trees was carried out over a distance of three miles. [The US Army again investigated this generally available and well camouflaged antenna during the Vietnam war.] The editor of "Electrical Experimenter" suggested that the Major had discovered the answer for the ambitious amateur troubled by objections from parents and landlords about unsightly aerials. The editor also suggested

connecting up every tree in a small wood to give a "wonderfully effective antenna."

In the June issue of the same journal the Major wrote an article describing his experiments. The eucalyptus trees (transported to California from Australia many years earlier) were found to work better than other trees. A wire was connected to a nail driven into the trunk of a living tree well up in the foliage. An earth consisting of several pieces of insulated wire was buried in a radial manner around the tree. Signals from as far afield as Europe were easily received. No mention of the wavelength is made, however, it seems likely that wavelengths of 1,000 to 10,000 metres would have been used. At the very least the trees would have provided some top capacitance for the 50

to 100 feet long wires connecting the equipment to the nail in the trunk.

The use of an effective earth was not overlooked by the Major, something that today's successful users of vertical antennae also take into account. (Copies of the E.E. supplied by Ivan, VK5QV.)

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RTTY IS FUN

Ian Hunt VK5QX
8 Dexter Ave., Salisbury E., 5100

I built a VDU. Yes! I copied it from an American magazine. What a remarkable piece of electronic wizardry. It had two pages of memory, automatic carriage return/line feed, cursor control, screen read capability, 32 characters per line, erase functions, all sorts of beaut features. Modifications were thought up to provide scroll-up facilities, character counting, four pages of memory and many other additional ideas. There was still one thing wrong. As it used ASCII code I couldn't put the thing directly on the air. Oh well, why not build a new terminal unit with all the things needed?

So, to make up some more printed circuits. Two DT800 demodulators solid-state switching board, selective amplifiers and switching for the CRO monitor, DD350 Magnet Driver (to use for hard copy, two AFSK generators, two UT4 UART/FIFO systems (one for Baudot, the other for ASCII code), Baudot to ASCII Converter (using a National MM5220 BL ROM Code Converter), ASCII to Baudot Converter (from the same magazine articles), UART Parallel/Serial Converter and vice versa, Automatic CW Identifier, two dual XER Crystal Clocks plus power supply. WOW! What a lot of work.

Art work to do, circuits to try out, capacitors and resistors to bridge for accurate values, negatives to be made, more research on circuits, boards to be etched, card frame made up with card guides and sockets, cabinet, panel work, lettering, more metal bashing, bits and pieces all over the place.

Time seems to run short. The project is put aside due to other pressures, complication of circuitry, need to re-think some of the approaches, other activities, WIA work, etc.

Well, I may get around to finishing this most comprehensive project some time in the future. It still looks to be a good system. There will be hundreds of inter-connections to be made between boards. More modifications will be in order as new ideas, components and methods present themselves. Lovely ways of storing information, producing pre-programmed messages, inserting corrections, all these possibilities exist.

I promised myself I would not take short cuts and put the VDU on the air without first finishing my all-singing-all-dancing new terminal unit.

So what happened? The ambitious project is still not completed. BUT! I am now



View showing at top homebrew RTTY terminal unit and monitor CRO. Below Model 19 teletype and tape Tx, loop current control and switching box, VDU and keyboard.

on the air with noiseless RTTY. And it took little more than a week of work in my spare time. How? You may well ask.

I would like to tell you about my new VDU system. It is called the "XITEX SCT100 Single Board Video Terminal". (Ref. 1) This unit, which is advertised in Amateur Radio has allowed me to get going on noiseless RTTY very cheaply, quickly and easily. For the benefit of you who may wish to do likewise, following is a description of the unit together with some comment on my own personal experiences in getting same going. The XITEX is a complete video terminal mounted on one printed circuit board approximately 5 to 10 inches in size. Mounted on the board are a total of 32 integrated circuits, including a character generator and a micro-processor chip. The board can be obtained with all components mounted in place and tested as a unit, however it is not very difficult to solder in the components yourself, and I find it more fun to do so, and of course cheaper as well. Together with the board comes a handbook which provides full instructions on assembly, testing and operation of the unit. Having assembled the board next comes the matter of the power supply. A wide range of options are available in this area and the circuitry provided allows

the use of any of the following forms of supply:—

- (a) 7-11V DC at 0.75A (max.) unregulated.
- (b) 8-12V AC RMS at 0.75A (max.).
- (c) 5V DC plus or minus 5 per cent at 0.75A (max.) regulated.

Having prepared the system thus far it is necessary to make a certain number of inter-connections. These are power supply, keyboard and video display. The power supply connections are made to a 2-pin connector, supplied, in the case of AC supply or via 2 pins of a 30-pin edge-connector in the case of DC supply. If one is already using what is known as an S100 bus system for computer type equipment the board may be simply plugged into the S100 bus. The keyboard connections are made via the 30-pin edge-connector or a separate 16-pin DIP socket. Now for a word about the keyboard. It is necessary that the keyboard be of a type which provides the standard ASCII code output. There are many different sources for such keyboards advertised in magazines including disposal sources. The suppliers of the SCT100 can of course also provide a suitable keyboard at reasonable cost with the unit. (Ref. 2) The keyboard I use may, however, be of interest to you. When I first obtained same it was of a type produced by a computer code called EBCDIC at

the output terminals and used on its board a custom programmed Read Only Memory which had 11 address lines. Some thought on modification produced the solution of reducing the 11 lines of the keyboard matrix to seven lines by using diodes. The seven address lines were then taken to an Ultraviolet Erasable PROM into which I had programmed the necessary information to provide ASCII out for each of the unique codes selected at the input at the press of each key. Selection of Upper/Lower case was implemented using a simple TTL circuit in the form of a latch providing a logic "zero" output for lower case, a logic "one" for upper case when the shift key is held down, locking to a constant "one" when the lock key is pressed and re-setting to a logic "zero" when the reset key is pressed. The output of this circuit is fed to the eighth address line of the EPROM. The use of the EPROM in a socket proves to be most convenient as the data out of the keyboard can be completely changed for special purposes by the simple expedient of plugging in another EPROM containing the requisite programming. This feature and the changes described would not be used by most operators who would simply as stated connect an ASCII keyboard to the VDU board and go from there, so don't become concerned about a seeming complication. This portion of the description was simply included to indicate a method and solution which may be of help to others who may wish to experiment with other keyboards themselves. Incidentally, the power supply from the SCT100 board may be used to supply positive 5 volts to the keyboard you are using.

Connection to the video display may take a number of different forms depending upon the unit you are using and is fairly well covered in the SCT100 handbook. The most popular form of display seems to be a small black and white portable television set. It is usually a simple matter to locate the input of the video amplifier within the set making the connection through an external jack and switch added to the set to allow its use as either a normal TV set or video monitor. In my case it was necessary to invert the video from the SCT100 to suit the TV set. This was simply accomplished by using the inverting input of an operational amplifier together with some DC adjustment to obtain correct levels. This circuitry was built on a small piece of matrix board and mounted inside the back of the television set and supplied with power from a suitable point within the set. The video from the SCT100 is taken from one pin of the 30-pin edge-connector and earth via a piece of light coaxial cable.

Having achieved this stage of progress it is only necessary to switch on, and if the wiring has been done correctly the whole system can be checked out. Now to describe for you just what it can do.

This system will provide at a flick of a switch the following facilities:—

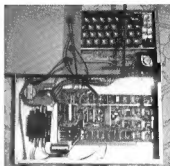
1. ASCII type output for micro-processor applications and other computer orientated systems with both upper and lower case alpha characters, full punctuation, standard symbols and numbers plus 31 special characters intended mainly for mathematical work.

2. A standard set of Baudot characters exactly the same as you would find on any ordinary teletype machine.

Either of these two conditions are selected by means of a single pole two position toggle switch wired to the appropriate pins on the edge connector. In the ASCII mode a baud speed of either 110 or 300 bauds may be selected, again by a toggle switch wired in a similar manner, and in the Baudot mode the standard teletype speeds of either 45.45 (International Amateur Standard) or 7.42 bauds may be selected. It is also possible by using a slightly non-standard powering up and re-setting procedure to obtain Baudot code at 110 bauds. Other baud speeds can be obtained by the addition of an external clock in lieu of the Xtal clock provided on the keyboard. To take the simple view, however, it is merely a matter of taking the output and input connections from the PC board to your usual teletype terminal unit to be on the air with solid state and noiseless RTTY having selected Baudot code and appropriate speed on the SCT100. It is beyond the scope of this article to describe fully the functions of the SCT100 when used in the ASCII mode, however details of a few of the other features of the unit, when used in Baudot mode, may be of interest. The unit provides 64 characters per line across the screen with a total capacity of 16 lines per frame. The first line appears at the top of the screen, as would be expected, with each consecutive line being written below the previous line until such time as the screen is filled up.

At this point the unit adopts a "scroll-up" mode with all the lines moving up one line at a time as the end of the bottom line appears. This means that the top line then disappears off the screen but gives plenty of time to read any text being received.

The unit includes provision for operation from 50 Hz supply but requires a printed track to be broken and a short jumper wire to be added on the board for 50 Hz operation. This option is quite clearly detailed in the instructions and shown on the board and circuit. Normal operation is with white characters on a black background but provision is made for reverse video, i.e., white on black, to be selected. Automatic carriage return and line feed is featured when using either transmit or receive, however a unique function appears under this circumstance. Should the unit come to the end of a line and a manual CR/LF not be received, it carries out the automatic CR/LF function but automatically places an arrow at the beginning of the next line to indicate that this line is a continuation



Complete VDU, with keyboard in enclosure. Cover partly removed.

of the previous line. This feature is of immense value when communicating with other operators using the mechanical type machines which generally have a line length in excess of 70 characters.

When baudot operation is selected, only characters normally appearing on a baudot teletype machine can be transmitted. Operation of any other character on the ASCII keyboard will result in nothing at all happening. To those not quite sure as to the meaning of this statement, I might explain that the standard ASCII keyboard carries many more characters and functions than an ordinary teletype keyboard. On an ASCII keyboard figures do however appear as lower case characters whilst on a teletype machine there are special keys to select either figures or letters as the case may be, much the same as a shift key on a typewriter is used for upper and lower case. When using the XITEX unit the micro-processor on the board takes all the work out of this area of operation. If you are typing letters and then you press a key for a figure this fact is recognised by the circuitry which automatically inserts a "figures" shift character and transmits it before sending out the figure signal for the key you have just pressed. Likewise, if you have been sending figures and then revert to a letters key it automatically inserts a "letters" shift before sending the letters character. Very clever stuff indeed, and no knowledge or expertise required of the operator. You simply sit there and press the keys for the letters and figures you wish to send and the rest is all done for you.

Input and output points on the unit also appear on the 30-pin edge connector. Provision is made for various types of input and output levels. Opto-couplers on the board allow you to make your connections directly across the inputs and outputs of a standard machine type teletype loop at high level voltages in either a simplex or duplex mode of operation. The provision of alternative computer type RS232 input/output level points allow simple connection to associated solid state equipment. However, in making your

interfaces with your teletype terminal unit do not make the mistakes which I made through some carelessness and sheer lack of thought. Emitter followers DO NOT pull right down to earth level (logic 0) and one must also remember to check that the sense of signals (i.e., either positive or negative for a mark signal in the teletype terminal unit) is correct, when making interconnections. Simple commonsense can save you a lot of time and effort. Had I followed the correct course I should have had everything working over the period of just a week-end.

So, to re-cap. If you wish to get on the air with silent modern RTTY with a solid state VDU system try the following, even if you are just starting from scratch. Obtain a XITEX SCT100 unit and a suitable ASCII keyboard. Connect it to a power supply as described and a small cheap portable black and white TV set. Connect the output of your RTTY terminal unit either via your selector magnet loop or TTL level output to the SCT100 input. Connect the output of the SCT100 to your AFSK or FSK keyer unit to drive your transmitter. Select Baudot at 45.45 bauds on the SCT100 and go on the air. It's as easy as that.

I have gone to the trouble of writing up this unit as I have for some years spent time drooling over the advertisements in both local and overseas magazines, knowing at the same time that the solid state RTTY gear advertised was so expensive as to be outside the range of my pocket-book. Having discovered the ease, and I emphasise the relatively low cost of the unit I am now using, I thought it only right to let you know that such a gem exists and is available in Australia.

Comments I have heard also led me to believe that many people did not understand just what this little unit would do. It is not my intention to provide free advertising for a commercial item, neither to condemn the manufacturers of what may well be other very good equipment also available.

Before I conclude, I would like on the same basis to make known to you a few other matters which may help you in the field of RTTY. Within Australia a group has been established based on the WIA VK2 Division. This Group is known as the Australian National Amateur Radio Teleprinter Society and can be contacted through using the address of the VK2 Divisional HQ at PO Box 123, St. Leonards, NSW 2065. The Society publishes a bi-monthly newsletter called "AREWISE", which is posted to members all over Australia. Cost of membership is only two dollars per year and receipt of "Arewise" will help you in learning more about RTTY operation. The Society can also supply kits such as the well known ST8 RTTY Demodulator at an exceedingly low cost (approx. \$40.00) compared to commercial units, and can also help with spare parts for teletype machines, provide assistance

with RTTY projects and generally help you to get going on this mode.

Another excellent magazine which does not cost too much to subscribe to is the American based "RTTY Journal", of which there is 10 issues per year. This magazine is available for only nine dollars (Aust.) per year as a service (he makes nothing from it) through Norm Wilson VK4NP, who is listed in the Call Book. The RTTY Journal also puts out an excellent Beginners' Handbook which would be of great assistance to anyone just getting started on this mode. The Beginners' Handbook is not, however, available through Norm VK4NP and you would have to obtain same direct from the publisher. (Ref. 3.) I have found that many other excellent articles abound in general amateur radio magazines and literature, particularly the magazine "Ham Radio", so go looking through whatever back issues you can locate. Amateur Radio Teletype is not at all as difficult as it may first appear, so don't be frightened off by thinking it may be too complicated for you.

Also in existence for some time has been the Australian Amateur Radio Teleprinter Group based in Western Australia. This Group puts out a newsletter also and may be contacted through VK6IF, 32 Mayflower Crescent, Craigie 6025. Subscription to the AARTG is four dollars per year, including the AARTG quarterly newsletter. The Group has also in the past put out a kit for the ST5 Demodulator, which is a more simple version of the ST6. I have been advised that Cliff VK6NK is the person to contact regarding this kit. I trust that this article will have been of some interest and help to you in becoming a little more familiar with some aspects of a most interesting mode of operation and one in which a growing interest has lately been evident in this country. So if you have a yen to take part in amateur RTTY operation give it a try. I find that all of the chaps on this mode are always very willing to help any newcomer on their way, so don't be afraid to ask.

REFERENCES

- 1 and 2. Available from the Micro Shop, Box 207, Glenview, South Australia 5116. Cost of keyboard kit \$20, but can be obtained assembled and tested at an extra charge. Cost of SCT100 VDU board kit \$168. Both prices include tax.
3. RTTY Journal, publisher Dee Crumpton, PO Box 9V, Cardiff by the Sea, California 92007. Cost of RTTY Beginners' Handbook \$4.50 US.

DT600 RTTY Demodulator is an updated version of the old faithful ST6 and was originally described in Ham Radio Magazine February 1976, page 8. The DT500 is a simplified version of the DT600 designed with the VHF operator in mind, and described in Ham Radio, March 1976, page 24.

The DD350 is a dual magnet drive for teletype machines and includes timing circuits to operate auto-start on the machines and also to automatically shut down and start up the magnet loop as necessary.

The following items can be obtained from Data Technology Associates Inc., PO Box 431912, Miami, Florida 33143:—

- DT600 RTTY Demodulator PC Board, \$12.50 US;
- DT500 RTTY Demodulator PC Board, \$10.50 US;
- DD350 SMD/Motor Control Board, \$7.50 US; DT70

Loop-Logic-Polar Interface Board, \$7.50 US; 4 Potentiometer Set for DT600/500, \$2.00 US.

Each of these boards are of high quality and are fireproof. The Demodulator boards are through-hole plated. I have seen these boards as supplied to a local amateur and was most impressed with them. With each board came a most comprehensive handbook with detailed construction and testing information, and even included two parts lists, one in order of component number and the other in order of component value. Instruction on how to solder is even included.

These references together with the information contained in the above article should provide anyone starting off on RTTY with sufficient information as to where to obtain data, components, etc., and provide a guide as to the costs likely to be incurred with such a project.

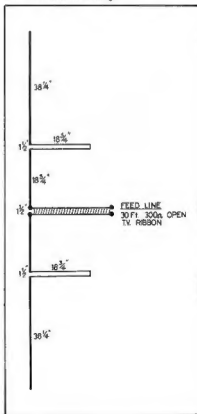
TRY THIS

WITH THE TECHNICAL EDITORS

A TWO METRE COLLINEAR

Earlier (1983) ARRL handbooks carried a description of a 2 metre collinear. Les VK2AXZ has submitted details of a similar antenna.

A 4:1 balun enables a coaxial feedline to be used. The ARRL suggests the use of stiff 1/8" aluminium wire for the elements, supported on ceramic standoff insulators screwed to a wooden pole. TV screw-eye insulators make a cheaper but less desirable mounting.



TWO METRE TRANSMITTER FILTER FOR OSCAR MODE 'J'

Joe Reisert W1JR

17 Mansfield Drive Chelmsford MA 01824

Many OSCAR 8 Mode J users have been experiencing receiving difficulties due to a large number of birds appearing on the 534.1-435.2 MHz downlink when they are transmitting between 145.9 and 146 MHz on the uplink. This is most often due to overloading and intermodulation in the 70 cm converter due to the proximity of the third harmonic of the uplink transmitter (viz., 437.7-438 MHz).

as shown. This will further reduce harmonic output.

INSTALLATION

Tune-up is simple since the filter has a broad bandpass. First set C2 to minimum capacitance and place the filter between the transmitter output and a power output or VSWR meter. With the transmitter tuned to 146.0 MHz, increase the capacitance of C2 until power output is maximum. Caution: do not exceed 50 watts output (more than enough for OSCAR 8 Mode J operation) since the components are not rated for higher power loads. Retuning for 144 MHz operation should not be necessary as the filter bandwidth is quite broad.

If you are fortunate enough to have access to a spectrum analyser, you can tune C2 for minimum output at 438 MHz. This, however, may cause additional loss at 146 MHz. If so, the transmitter output circuit may be readjusted to compensate for the mismatch.

PERFORMANCE

The 435.1 to 435.2 MHz spectrum will be much cleaner when using the described filter on your two-metre transmitter. Always use the least possible transmitter power, since this will also lower the third harmonic level. Additional separation between the two-metre and 70 cm antenna should also help.

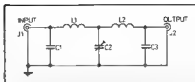


FIG. 1. 146 MHz LOW PASS FILTER
Insertion loss at 144-146 MHz: Negligible.
Maximum input power: 50 watts.

Attenuation at 432-438 MHz: 50 dB typical.

Construction and testing: See Fig. 2 and test.

C1, C3 — 22 pF low loss Mica 300 volt min. UNELCO type J101 (Note 1 and text.)

C2 — 10 — 60 pF Mica trimmer with short leads — ARCO/ELMenco type 404 (See text.)

L1, L2 — 3T No. 14 AWG enamelled copper wire close-wound, 1/4 in. inside diameter (approx. 40 nanohenries).

J1, J2 — Type BNC, UHF or N coax fittings.

Note 1: 22 pF UNELCO Mica capacitors are available from Webster Radio, 2602 E. Ashlan, Fresno, CA 93728 at \$1.75 each plus tax and shipping. Do not substitute other types of capacitors.

There is very little that can be done to the receiving converter without using elaborate filters and high dynamic-range circuitry. However, most of the birds can be eliminated by properly filtering the output of the two-metre transmitter to minimize any third harmonic output.

In my case, I could detect about a dozen such birds varying from just above the noise to 20-30 dB over the noise. Operation on the 435.10-435.2 MHz downlink was almost impossible. Then I added a simple (see Fig. 1) 5 element half-wavelength type of low-pass filter on the two-metre transmitter (a homebrew transistor amplifier operating class B with 40 watts maximum output). There was an immediate improvement with only two weak and three moderate (10-15 dB over the noise) birds. Needless to say, the results were dramatic.

The filter used is not an ordinary low-pass type. It exhibits the characteristics of a 1 to 2 dB ripple Chebyshev design over the 135-150 MHz band. The cut-off frequency is typically 250-275 MHz, and attenuation is greater than 10 dB on the second harmonic (292 MHz) and greater than 50 dB at 438 MHz. Therefore, this design is only recommended for two-metre use.

CONSTRUCTION

For optimum performance, the filter should be built into a shielded box as shown in Fig. 2. Double-sided printed circuit board is recommended as a suitable ground plane and also makes soldering to C1 and C3 easier. Note that solder should flow on both edges of C1 and C3 for lowest loss and VSWR. Also provide a good ground strap between J1 and J2 to the top side of the printed circuit board

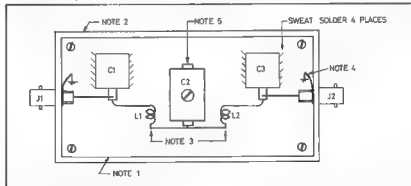


FIG. 2. RECOMMENDED LOW PASS FILTER CONSTRUCTION

Notes:

1. Use double sided PC board bolted to box.
2. Shielded aluminium box is recommended, approximately 2 1/2 in. x 1 1/2 in. x 1 1/2 in.

3. Keep L1 and L2 separated to cut down on possible mutual coupling.
4. Provide positive ground return such as a strap from connector ground to top side of PC board.
5. Keep leads on C2 as short as possible (see text).

Reproduced from the "AMSAT Newsletter" June 1978.

DETERMINING ANTENNA SURFACE AREA

Roger Cox WB0DGF
Hy-Gain Amateur Product Engineer

Some methods of determining antenna surface areas have made many false assumptions. Some of these assumptions are:

1. Air flows with perfectly smooth and streamline motion, or in other words, laminar flow
2. Since assumption is made of laminar flow, it is also assumed that this flow is in a perfect horizontal plane.
3. Since assumption is made of laminar flow in a perfect horizontal plane, it is assumed that the element portion on the leeward side is shaded out by the area of the boom (see Fig. 1).

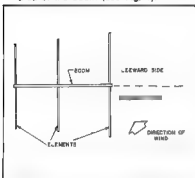


FIGURE 1

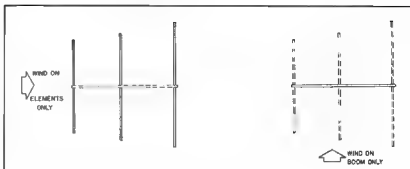


FIGURE 2

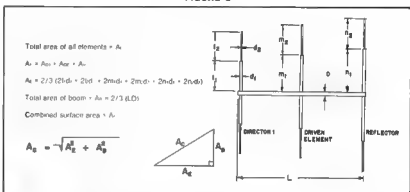


FIGURE 3

In all cases where these antennas would be used outside, you would never have perfectly smooth and streamline motion, but horizontal and vertical fluctuations which when sudden and brief are called gusts. This type of flow would be turbulent rather than laminar. Since there are horizontal and vertical fluctuations, the element portion on the leeward side would not be shaded out. Only if the elements were spaced very close together would you get some shading out.

The Hy-Gain method of calculating antenna surface areas does not use these assumptions. In our method the wind is

projected perpendicularly onto each element (see Fig. 2). The total area of all elements are then multiplied by the 2/3 shape factor for cylindrical elements. The wind is also projected perpendicularly onto the boom. The total area of the exposed boom is then multiplied by the 2/3 shape factor. The resultant total area of the combined elements and boom is obtained by using the Pythagorean Theorem for a right triangle (see Fig. 3). By using this method it takes into account the magnitude of the area from the two directions to give you the best angle of wind to give the maximum area.

USP

AMATEUR DIGITAL RADIO OPERATOR

In Canada rules have been made for a new experimenter class of licence called the Amateur Digital Radio Operator's Certificate. Digital and pulse techniques are permitted in Canada on specified VHF and UHF amateur bands and operators of the new class are only permitted above 144 MHz. Holders of existing AR Op. Certificates and Advanced AR Radio Op. Cert. will be allowed all the operating privileges of the Digital Cert operators except for pulse emissions.—QST December 1978.

WALKIE-TALKIES ON 49 MHz

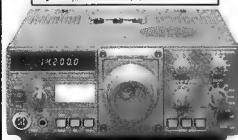
Should be some fun when some of our importers get a shipment of the latest cheap walkie-talkies intended for the US market. The new frequencies allocated in the US for low powered transceivers are around 49.9 MHz. These frequencies have been chosen due to the impracticability of operating 100 mW walkie-talkies on Ch. 14 CB (27.125 MHz).

The band already has a radio club in California.

These little flea powered cheapies could provide quite a headache when they are imported and sold locally.

The popular "Hy Quad"

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AR. 240, 2 meter hand held, 144 - 148
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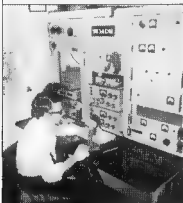
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A SCANNER FOR THE ICOM IC22S

Gary Smith VK6GS
2 Urban Street Wagga WA

Icom 22S owners! When you go mobile through the country side, do you miss the news and activity of the area, or miss the openings due to being engaged in driving? If so, this is the ideal scanner for the vehicle.

This article describes how a scanner can be installed in your IC22S. The scanner is easy to build and easy to operate when operating mobile. It has many facilities which, I think, make the extra circuitry warranted.

Only seven ICs, quite a few diodes, a few transistors, two regulators, some capacitors and a little thought makes life easy.

FACILITIES

This scanner has a variable scan rate, the speed of which can be varied and adjusted for optimum performance. The author's operates at a rate of 15-20 channels per second. It can be operated faster if desired with a possible deterioration of performance.

If the scan-stop is activated by an incoming signal (by the mute oct) you have two choices. You can listen to the incoming signal and during the inter-over pause break in by simply operating the PTT and replying or you may just listen to the conversation. The break-pause or scan delay time can be adjusted by the pot (RV1) in the circuit to satisfy your desire.

The scan also decides the transmit frequency for which it has to reply and by operating the duplex B (Dp B) switch you can reply on the anti-repeater frequency. The scanner scans 20 channels, i.e. 10 Dp channels and 10 anti-repeater frequencies (Spx). The author's scanner covers anti-repeaters 2, 3, 4, 5, 6, 7, 8, 40, 50, 51, plus 600 kHz above all these frequencies, coming out at repeaters 2, 3, 4, 5, 6, 7, 8, 146.6 (i.e. 40 + 600k), 147.1 (50 + 600k) and 147.15 (51 + 600k).

CIRCUIT DESCRIPTION

The circuit is very basic but is quite effective. It has a scan-stop and delay circuit consisting of TR1, TR2 and IC1a, IC1b and IC1c which work into the clock

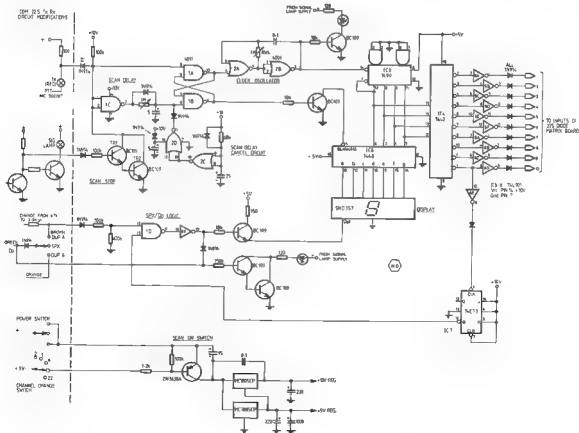


FIGURE 1: Circuit Diagram IC22S Scanner

oscillator (IC2a, IC2b) The clock speed is variable (by RV4) for optimum performance. The scan operates from the HEX inverters IC5, IC6) which switch the diode matrix and at the end of the tenth pulse the JK Flip Flop changes state and switches the receiver into the duplex mode to scan 600 kHz above the ten previous channels scanned.

The second 10 channels are indicated on the seven segment display by the dot. The section in the circuit outlined by the dotted line, containing the display unit was made outboard by the author due to lack of space for circuitry and for the want of a position for mounting the seven segment LED in the IC22S so the second 10 channels (Dp) were indicated by a red LED mounted behind the TX lamp of the 22S.

One could eliminate the display unit and the only indication that the unit is scanning would be the LED operated by the BC109 from the clock and the SPX/Dp LED.

The diode (D1) which has its anode connected to IC1 pins 1 and 2 and 8 allows isolation between the scan circuit and the IC22S circuit. The diode placed in the supply rail of IC1 (4011) was put in circuit before D1 so that when the scan was turned off the positive coming from the IC22S Tx circuit (through the 100 ohm resistor) into the gates of IC1 and out on to the scan rail did not get any further and so would not keep the scan going. Other diodes were added for the same reason.

Sometimes the DPX/SPX logic did not

change over. The addition of a 470k ohm resistor from the pin 12 of IC1 to ground cured the problem.

The main problem encountered during construction was that the scan-stop circuitry could not be taken straight from the receive lamp as the time delay for the globe to increase its resistance was enough for the scan to stop too late or not stop at all. The addition of the BC109a (TR1, TR2) and taking the mute from the previous stage provided a solution.

The other most troublesome problem was apparent voltage sensitivity of the scan even though it had integrated circuit voltage regulators. As the voltage increased the mute could not be opened by either the squelch pot not being adjusted or by an incoming signal. The 2N3638A amplified an unwanted signal on the rail of the synthesizer which got into the scanner. The problem was cured simply by decoupling and filtering of the nine volt regulated rail of the synthesizer unit which turned on the scan unit.

Other filtering capacitors were added so that on the changeover from Rx to Tx the scan did not change channels due to spikes on the rail.

The scan indication LED was mounted in the same position as the signal lamp using the same positive as same and the DPX/SPX LED also. The leads were brought past the TX lamp and through the hole behind the channel change switch.

If the resistor R157 (47k) in the Dp A circuit is not lowered to about 22k in the IC22S receiver circuit when the scanner unit is on the logic threshold between Dp A and SPX and operation may be affected. If the DPX/SPX LED is eliminated it will work on 3.9k ohms although 22k ohms is recommended

I built the unit on vero board and mounted it on the same side but to the back of the synthesizing board. It was not necessary for any shielding from any other circuitry as was first thought

This unit was built by VK6JL (Chris), who found a problem which mine did not have. Sometimes when the channel change switch is rotated while the receiver is in the SPX mode, it will go out of sync (meter lamp extinguishes) and the signal lamp illuminates. He cured these problems by two circuit alterations. They were by placing a 1000 microfarad capacitor across the 5 volt regulated rail of the scan. This also allowed the unit to be turned off momentarily, as may occur when starting the car or switching to accessory, without losing its programming. He also introduced the scan delay cancel circuit as he found that if the delay circuit was too long the scanner started from scratch when he turned off his car ignition and he missed a fair deal of the conversation. With this circuit it will start from scratch but there will be no delay before it starts scanning. ■

ARCTIC/ANTARCTIC AMATEUR

Dick Goslin VK3SV

Amateurs who have worked VK6JC and been asked "Please QSL via OZ8AE" may not be aware that both call signs belong to the same operator — Jørgen ("Joe") Christensen, whose home QTH is Nykøbing.

Joe is Radio Officer on M/S "Nella Dan" which, under charter to the Australian Government, transfers personnel, equipment and stores between Melbourne and our ANARE bases in Antarctica. Joe received his VK licence in November 1978 and with approval of the ship's Master and owners, and the Danish radio authorities, operates on our amateur bands, both maritime mobile and whilst the vessel is berthed or anchored at Australian ports and bases. He runs a TS520S from his cabin next to the radio room with dipoles for the various bands, and works both SSB and CW, mainly the latter.

A small ship of some 2000 tons and 70 metres in length, "Nella Dan" nonetheless has room for three helicopters and a small fixed-wing aircraft on its covered after-deck. It also carries a year's supply of provisions and water for emergency use

should the vessel be caught in the ice. Equipment, diesel fuel and foodstuffs for base personnel are carried in the forward hold. In bad conditions, the Master is able to take full control of the ship's movements and speed from a miniature "bridge" atop the foremast.

Joe's duties extend far beyond what is usually associated with a radio officer. He is responsible for payment of the crew's wages, catering records, and many other aspects of the ship's running costs and performance as well as daily reports to the owners in Copenhagen and all other communications. In short, he could well be described as "ship's secretary", with complete knowledge of the day's "doings" literally at his fingertips.

His pedestal-mounted chair is bolted securely to the steel deck, and well it needs to be. In heavy weather "Nella Dan" may roll up to 50° each side of centre, and even though firmly seated Joe needs a tight left-hand grip on one of the rack handles in order to use the key or fayer with his right hand. (Wonder how some of we land-lubbers would fare under these conditions!)

Equipment in the radio room includes a recently-installed solid-state transmitter covering all modes LF, MF and HF to 30 MHz. Full RTTY facilities are located in another corner of the room. An instrument adjacent to the bridge gives LED displays of latitude, longitude and GMT, whilst another, activated by signals from one of the Russian satellites, provides a printed read-out of the extent and location of pack-ice.

By the time this appears in print, "Nella Dan" will have returned to Copenhagen, and Jørgen Christensen will be enjoying some well-earned leave before joining another of the company's ships and heading north to Greenland.

OZ8AE/VK6JC is a man of many parts (geographically) and many accomplishments (professionally). On the infrequent occasions when he is able to spend a few weeks at Nykøbing, he provides pleasure for others as well as himself with his electronic organ. ■

**WHEN PURCHASING GOODS,
SAY YOU SAW IT ADVERTISED
IN AR**

ARE YOU INSURED?

Mike Richter VK2BMM

NSW W CEN Deputy Co-Ordinator

One aspect of modern society's search for security is that we pay a small amount of money regularly to insure against the possibility of a major loss due to accident or willful damage.

The Amateur Operator has several special insurance needs and hopefully the following information will help you obtain sufficient coverage at a reasonable price.

The type of insurance coverage you will need as an Amateur may be considered in the following categories:—

1. **PERSONAL Insurance** to cover you against illness or injury is really required by everyone but a special need exists if you intend to take part in WICEN exercises or operations as you may be exposed to additional risks. If called out by the State Emergency Services you are covered under their insurance, however under all other situations you are uninsured. It was for this reason that NSW WICEN has taken out Personal Insurance up to \$30,000 per person with the Government Insurance Office to provide coverage during operations as well as exercises.

2. **PUBLIC LIABILITY Insurance** to cover you against the possibility of being sued by a member of the public is required by anyone who has aerials that could fall on someone, whether inside or outside your property. Public Liability Insurance up to \$250,000 is usually included with Home Contents Insurance but you should check with the company to see if it covers you against collapsing transmitting aerials. WICEN operations also create the possibility of being sued, therefore NSW WICEN has coverage for \$500,000 Public Liability with the Government Insurance Office.

3. **EQUIMENT Insurance** to cover you against damage to transceivers or aerials due to theft, fire, storm, etc.

If you only use your equipment at home it can be included in Home Contents Insurance, but some companies may require you to list expensive items or unusual items (transceivers). The cost is around 0.6 per cent but depends on the area you live in.

If you have your equipment permanently mounted in the car, then it could be added to your vehicle's Comprehensive Insurance, and it is then covered for all risks that your car is covered for. The cost of this insurance is determined by adding the cost of the equipment to the insured value of the vehicle and therefore depends greatly on the vehicle cost, no claim bonus, area of residence, etc. Do not succumb to the common pitfall of believing that your Comprehensive Insurance covers equipment in the car under the Personal Effects category! This is usually only \$100 and only applies to wallets, watches, etc., that may be lost or damaged in an accident and not transceivers.

If you use your equipment both at home and outside then you really need Personal Property Insurance (previously called All Risks), which covers your equipment against theft, fire, collision, etc., no matter where it is. This usually costs 2 per cent per annum of the insured value and the company will require specific details of each item to be insured. One company provides a "Multirisik" extension for equipment covered by a Home Contents policy that provides additional coverage when

the equipment is outside the house and only costs 1 per cent (in addition to Home Contents cost). This is cheaper (0.4 per cent) than Personal Property Insurance but provides almost as much coverage. Do not expect your Home Contents Insurance to cover your equipment outside the house. Even though policies do provide for items being "temporarily removed" from the house the coverage is very limited and excludes theft and items in a vehicle!

Providing equipment insurance through WICEN would prove too expensive therefore Amateurs are urged to provide their own insurance which will give coverage for normal use as well as WICEN operations.

Aerials masts should be included in the house insurance policy. Make sure that the company includes the mast in the policy, in writing, and that you are covered for the cost of replacing the mast and aerials in case of damage as well as the repair of any damage to cars and houses that the mast, aerials and guys may cause on the way down.

You may decide the insured value of your equipment within the limits of its full replacement cost (i.e. the present new cost of an equivalent item) or its depreciated value (original purchase price depreciated up to 30 per cent each year). Again you should consult the company who will suggest a value but you can have this changed if you feel it is too high or too low. ■

QSP

4U1TU QSL CARDS

QSL cards for all contacts from 4U1TU are written at the time of the QSO by the operator (note visitors waiting to use 4U1TU must first demonstrate their ability to use and tune the equipment because of operators in the past not familiar with the equipment). These QSL cards go through QSL Bureau Direct QSLs are not exchanged incidentally if you intend visiting Geneva and wish to use 4U1TU a letter must be sent at least four weeks in advance to 4U1TU, PO Box 6, Place des Nations, 1211 Geneva 20, Switzerland.—RI News October 1978.

SORTING OUT THE YUe

"According to the present national Amateur Radio Regulations members of the family of the owner

of the station licence are allowed to operate if they have passed a kind of operator's examination. In this case, letters X or Y may be added to the original call sign. It is tradition in YU that the letter X should be added if son or daughter operate a station, and letter Y should be added if wife or husband operate (e.g. YU1UK/X, YU3AE/Y, etc)."—RI News October 1978.

MAINLY FOR "OLD-TIMERS"

Lord, thou knowest better than myself that I am growing older and I will some day be cold. Keep me from getting talkative, and particularly from the fatal habit of thinking I must say something on every occasion. Release me from the craving to try

to straighten out everybody's affairs. Keep my mind free from the recital of endless detail. Give me wings to get to the point I ask for grace enough to listen to the tales of other plans. Help me to endure them with patience. But seal my lips on my own aches. They are increasing and my love of rehearsing them is becoming sweeter as the years go by. Teach me the lesson that occasionally it is possible that I may be mistaken. Keep me reasonably sweet, a sour person is one of the crowning works of the devil. Make me thoughtful but not moody, helpful but not bossy. With my vast store of wisdom, it seems a pity not to use it all! But thou knowest Lord that I want a few friends at the end. By "Another OT." From QTC, October 1978. ■

TELEVISION IMAGES FROM THE PAST — THE ORIGINAL SLOW SCAN?

Gill Miles VK2KI
31 Beaumont St., Camperdown, 2194

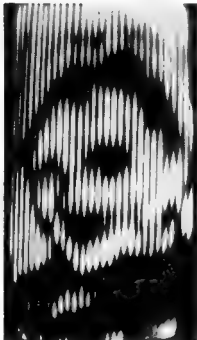
From the middle of the 19th century experimenters, physicists, engineers and others were striving for the goal of television.

The majority of these schemes were on paper only and in the years that followed the photo electric effect of selenium, the scanning disc, the amplifying valve and the neon amp were discovered.

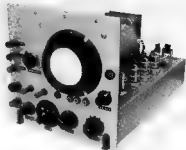
In 1923 John Logie Baird was the first to put them all together and come up with a workable mechanical television system. He was also demonstrating at that time 3D, colour, and infra-red transmissions which he called "NOCTOVISION" or night vision.

His mechanical system placed severe limitations on the picture size 1 in. x 2 in. and picture detail of 32 lines. Using a frame rate of 12.5 pictures per second the base frequency becomes 400 Hz and with picture information added bandwidth increases to about 7 kHz. These frequencies were used to amplitude modulate an RF carrier.

Baird was also able to record the picture information on to 78 r.p.m. shellac phonograph discs. He called this "PHONO-VISION". The records were available to buyers of his receivers to be played into the "televisors" for tune up purposes. I



1926 "Baird" TV image from Phonovision disc signals into 3 inch monitor.



3 inch TV Monitor for Baird TV. 32 lines, 400 Hz line rate, 12.5 Hz frame rate.

know there were at least two of these discs still in existence, one held by the BBC and the other by IBA Television Galleries in London. Both of these sources during my recent visit to the UK, re-recorded the image signals on to 1/4 in. magnetic tape at 7.5 inches per second.

On my return to Sydney I re-worked an old 3 in. CRO to operate as a monitor on the Baird System frequencies. There are eight head and shoulder images of well known people and a wedge shape test pattern on these discs.

It is surprising, after more than 50 years and re-recording, that there is enough detail left to produce recognizable pictures. Although there were no special synchronizing signals transmitted at that time it was not difficult to devise sync from the line frequency to hold the picture quite steady for photography. ■

THE MELLISH REEF DX-PEDITION — 1978

What'll they say of Oct. 3?
When Hell broke over the Coral Sea
And all the world sought recognition
In the Mellish DXpedition.

When Earth's shroud, the field 'magnetic'
Was scorched, convulsed by the pace
frenzied
Of calls of Hams out to make
A QSO — a ten sec break

Beams were swung and sets were tuned
And if truth be known, many ruined
As the gear ran hot, ran hot,
Aiming at that tiny spot

Ops at rigs with purpose bent —
Not for hours but days they went.
Like the buzz of swarming bees

— or discordant symphonies.

Forgotten were both food and sleep,
Chores and work — they could keep —
Happenings were beyond belief
In the struggle for the Reef.

Perhaps Ole Ionos smiled on you
— and at last you got through.
Your call plucked from the line
With a lovely 5 x 9.

With voice gone hoarse and aching wrist,
Each DXpeditioner did persist,
To add another to the list,
So that no one would be missed,

But all things must come and go
And so has VKs hottest "show".

Now from the Reef, no sounds, no words
Mellish is back with the birds.

So pass the 807s boys
Here's to all that strife and noise.
Cheers to the blokes who made it GO,
Let the liquid "amber" flow.

When cobblers gather in the shack
Let the rag chew wander back —
Flip the log book to the leaf
Of the Saga of the Reef.

Point up to the QSL
— and say, "thereby hangs a tale to tell"
— and tell it with the utmost relish
About the day you knocked off MELLISH.

Alan Shawsmith VK4SS ■

HOW TO LEARN FRENCH — THE HARD WAY

John Scougall VK5YY
The Villa Puccini Road, Grafton 5152

Every award hunter needs a good aerial. The author gives his story.

For the award hunters there are several French awards which are very attractive and well worth a place on the shack wall or under the glass of the operating table.

Apart from those which relate to the Pacific and Antarctic areas (OTA or Diplôme des Terres Australes and ARANC or Association des Radio-amateurs en Nouvelle Calédonie Diplôme for contact with six amateurs in New Caledonia) and which for the Australian amateur are relatively easy to come by, there are two which relate to metropolitan France and which are more difficult to land.

One of these is awarded to radio amateurs who are able to confirm contact with one station in each of the 17 Provinces of France and which include the island of Corsica. It is called the DPF (Diplôme des Provinces Françaises) and is perhaps more colourful than its bigger brother which is called the ODFM (Diplôme des Départements Français de la Métropole) and which involves contacting one station in each of the 95 Départements (Counties) of France — all on the same band and in the same mode. The basic certificate is awarded after the first 20 Départements have been worked and confirmed and after that, stamps of merit are awarded for contact with each 10 additional Départements which are verified until the stamp of excellence is awarded after confirmation of the entire 95. Something like our ACE Award.

After four years of intermittent effort and a score of 70 out of the 95, I decided that a 2 wavelength V beam on 14 MHz and no linear amplifier or compressor was not

quite equal to the task, particularly as the V beam could not quite be pointed in the right direction because of the lie of the land at my QTH. Something had to be done to effect some improvement and I decided that the best way to achieve this was to work on the aerials which is what this article is really about.

As one of my regular contacts and good friend Pete Bowman VK5FM had assured me that putting up a quad for 20 metres was "like wrestling with an octopus" it was decided that maybe a yagi would be nearly as good and as a VS33, the Japanese equivalent of the TH3, was available second hand, this was purchased. The idea was to mount it on top of the two section wind up tower which was used to support the wire antennas at my QTH.

As one of the problems that I have noticed with beams is that they are "way up there" but not out of harm's way as I found out in Alice Springs when a hailstorm detuned the traps on my ZL48FU style monobander. Furthermore, as I never feel quite at home unless my two feet are planted firmly on the ground, we had to find a way of converting the tower into one of the tilt over variety so that we could bring the beam down when it was necessary to make adjustments.

Since the tower was already pivoted at the base it is possible to tilt it over but with a beam on top it calls for two and a half men and a carton of beer as the weight is considerable. In addition one has to wait until the weather is exactly right, which is not very often in the Adelaide Hills. Having read in "Hints and Kinks" by ARRL that an amateur in "the States" had solved a similar problem with a tele-

phone pole and a block and tackle I resolved to try something along these lines.

A telephone pole 30 feet long and 7 inches in diameter at the top was purchased from the local dump and it was delivered to the site where it lay for several weeks. Eventually a contractor who specialised in felling trees agreed to put it in the ground alongside the tower in line with the direction of pull and about two feet away from it. With the aid of Roger VK5RW a four inch pulley wheel was mounted inside a roughly fashioned but sturdy housing and mounted near the top of the pole. This job was done whilst the pole was still on the ground and the pulley was held in position by a long U bolt which ran right through the width of the pole. So that the pulley wheel would be free to rotate without scraping the sides of the housing, two washers were made up from tin plate as it was feared that the cable might slip down the gap alongside the wheel if it were wide enough.

To cement the pole in the ground near the tower took four strong men about an hour to do as telephone poles are heavy and cumbersome devices. After the hole has been dug down to about five feet, it is stepped on one side so that the top of the pole can be angled into it. A crow-bar is positioned on the opposite side of the hole so that the pole will not tear the side on the way in. It should be angled slightly outward from the tower so that the top of the pole is two inches or so further from it than the base. This allows for movement towards the tower over a period of time caused by the weight of the tower as it is being raised and lowered. This can cause the pole to shift in the ground slightly.



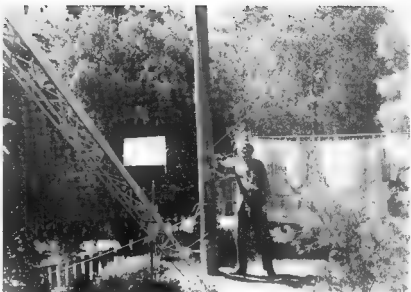
View from the tennis court side



And she is up — ready to work the DX

The cable is attached to the tower about two-thirds of the way up the first section at about 20 feet off the ground. The tower is lowered to its telescoped height of 22 feet before it is tilted. The cable, which is heavy duty steel type, is passed through the pulley and down to a McPherson spur gear ratchet winch which is mounted on the pole facing the tower at a convenient height. The winch is capable of taking a 5000 lbs. (2272 kgs) strain and provides a choice of two ratios, the lower one being 10 to 1. It is possible that a lighter winch could serve equally well in this application. For light towers, a section of two inch water pipe could take the place of the telephone pole. The pulley must be so placed that the pull of the tower is in a straight line. The pole can be turned in the hole before it is filled in by passing a rope around it and pulling it in the desired direction. This is good exercise even for a strong man.

The day chosen for raising the mast was fine with a light breeze. Ropes were attached to the mast and rigged so that any tendency for side swing could be counteracted but in conditions of light wind this did not appear necessary and once the beam had been assembled and bolted into position the rest was easy and allowing for time to find a camera and take a photograph the mast with the beam on top was up and fixed safely into position in less than ten minutes. The only casualties in the operation were two tomato plants that were trodden down whilst the telephone pole was being manoeuvred into the hole.



Roger Wreford VK5RW turns the handle to raise the antenna. We didn't even have to get the XLV to take the washing off the line.

For a while it looked as though the problem of keeping the pulley moving freely without leaving terra firma to oil it from time to time might have meant getting the ladder out after all. However, a light piece of half-round dowelling was attached to the end of a long length of light timber and a wire swing which held a small

container (pill box or similar) arranged so that it could be turned upside-down, was fixed to the end of the dowelling rod. In this way one can send the oil up to where it is needed and stay on the ground at the same time. Be careful not to stand directly below whilst performing this delicate task.

THE BASIC PRECEPTS OF SCIENCE

Submitted by E. Renouf VK2AWR

Gary Owen, of New Mexico, has supplied these interesting observations after many years of Amateur

Experiments. His experience and observations are the same as ours.

ALLENDOERFER'S AXIOM —

When a/c else fails, read the instructions.

BASSAGORDIAN'S BASIC PRINCIPLE AND ULTIMATE AXIOM —

By definition, when you are investigating the unknown, you do not know what you will find or even when you have found it.

CALLAHAN'S COMPENSATION COROLLARY —

The experiment may be considered a success if no more than 50 per cent of the observed measurements must be discarded to obtain a correspondence with theory.

FINKELRAT'S FUTILITY FACTOR —

No experiment is ever a complete failure, inasmuch as a well-written account of it can serve admirably as a bad example.

FLANNERY'S EFFECT —

Those items most urgently needed are inversely available to the degree of urgency of the need, i.e. in any pile of papers,

when search commences at the top, the sought-after paper is at the bottom or vice versa.

FLIEGELBAUM'S LAW OF THE PERVERSITY OF INANIMATE OBJECTS —

Any inanimate object, regardless of its composition or configuration, may be expected to perform at any (unpredictable) time in a totally unexpected manner for reasons that are either totally obscure or completely mysterious.

GUMPERSON'S LEMMA —

The probability of a given event occurring is inversely proportional to its desirability.

HORNER'S FIVE-THUMB POSTULATE —

Experience varies directly with the amount of equipment irrevocably ruined.

LOUGHRIDGE'S IMMUTABLE REALITY —

The intensity of the desirability of an event is directly proportional to its occurrence at a wholly inopportune time.

MURPHY'S LAW —

If anything can go wrong, it will (e.g. if you drop a piece of toast, it will inevitably fall jam-side down).

PATRICK'S THEOREM —

If the experiment works, you must be using the wrong equipment.

SCHIMMELFENNING'S CONSTANT —

That quantity which, when multiplied times, divided into, added to, subtracted from or taken to the power of the answer you got, yields the answer in the back of the book.

SPINKENHEIMER'S SPARE PARTS PRINCIPLE —

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Number of Filter Crystals	5	8	8	8	8	4	8
Bandwidth (6 dB down)	2.5 kHz	2.4 kHz	3.75 kHz	5.0 kHz	12.0 kHz	0.5 kHz	0.5 kHz
Passband Ripple	< 1 dB	< 2 dB	< 2 dB	< 2 dB	< 2 dB	< 1 dB	< 0.5 dB
Insertion Loss	< 3 dB	< 3.5 dB	< 3.5 dB	< 3.5 dB	< 3.0 dB	< 5 dB	< 6.5 dB
Input-Output Termination	Z_t 500 Ω C_t 30 pF	500 Ω 30 pF	500 Ω 30 pF	500 Ω 30 pF	1200 Ω 30 pF	500 Ω 30 pF	500 Ω 30 pF
Shape Factor	(6.50 dB) 1:7 (6.80 dB) 2:2	(6.60 dB) 1:8 (6.80 dB) 2:2	(6.60 dB) 1:8 (6.80 dB) 2:2	(6.60 dB) 1:8 (6.80 dB) 2:2	(6.60 dB) 1:8 (6.80 dB) 2:3	(6.40 dB) 2:5 (6.60 dB) 4:4	(6.60 dB) 2:2 (6.80 dB) 4:0
Ultimate Attenuation	> 45 dB	> 100 dB	> 100 dB	> 100 dB	> 90 dB	> 90 dB	> 90 dB
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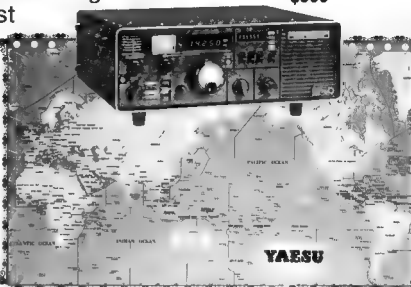
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- **Selectivity:**

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AM ± 3 kHz (—6 dB), ± 7 kHz (—50 dB)

- **Stability:**

Less than ± 500 Hz drift for any 30 minute period after warm-up

- **Antenna requirements:**

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- **Speaker impedance:**

4 ohms

- **Audio output:**

2 watts

- **Power requirements:**

100/110/117/200/220/234 VAC, 50/60 Hz

- **Power consumption:**

25 VA

- **Size:**

360(W) x 125(H) x 295(D) mm

- **Weight:**

Approx 7 kg

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A MOBILE WITH A COAST-TO-COAST GROUND SYSTEM

Dianne Mann VK6NGQ
P.O. Box 463, Kalgoorlie, 6430

On September 1st, 1978, Bill Main VK6NDZ commenced operating as a railway mobile station by contacting A4XGY at 0435 GMT on 28.595 MHz. Since then many VK and overseas amateurs have become familiar with the voice of "VK6NDZ railway mobile." The success of his operation has amazed no-one more than himself.

The often surprising signal reports obtained by this very QRP station are attributed to an extensive ground system, which extends, in fact, from the Indian Ocean to the Pacific Ocean, i.e. the railway line itself which is continuous between Sydney and Perth.

Bill's railway mobile station is very simple and consists of a TenTec Argonaut 509 transceiver with an input power of 5 watts. The antenna is a stainless steel 1/4 wave whip on 10m with centre loading for 15m and 80m. The loading coil/coils not in use are shorted out. Most guards' vans have brackets either side which are

used for mounting kerosene lamps in the event of an electrical failure in the van. However, Bill finds them far more suitable for mounting his antenna! Power to the transceiver, on passenger trains is provided by using the 240V AC generated on the train and on goods trains the 24V DC supply is reduced to 12V using a regulator. Many thanks are owed to VK6ZGQ, Lewis Pannell, who designed and constructed the antenna at extremely short notice in July 1978. Bill normally uses a headset for ease of operation.

He has worked all VK call areas including VK9 and VK0 from the train. Other countries worked include: W, VR1, ZL, P29, HC, G, HB, YB, 9M2, 9V1, JA, DK, CT, A4, ZS, 9J, UA, and 3B8.

Recently the Perth Radio League, of which Bill and myself are members, introduced 3 Awards. These are: the WAY 79 Award, in celebration of WA's 150th Anniversary; the Black Swan Novice Award and the Zone 29 Boundaries Award.

Whilst Bill can assist stations to qualify for two of these awards simply by virtue of being a VK6 novice station, the unique mode of operation enables him to qualify many stations for the Zone 29 Boundaries Award. To qualify for this award stations need to work 1 mobile station whilst that station is actually crossing a Zone 29 boundary. Bill regularly crosses the VK6/VK5 border during his work as a railway guard. He is also the Awards Manager for the Perth Radio League. Details of the awards can be obtained by writing to him at PO Box 463, Kalgoorlie, WA 6430.

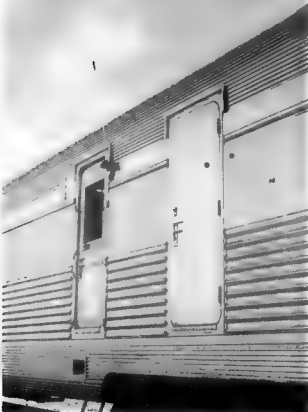
The Perth Radio League also has a Club station with the call sign VK6NFL, which at times may be used by Bill whilst rail mobile.

In the near future he hopes to increase the power of his station to 30W PEP by utilizing a small linear.

If you hear Bill operating rail mobile at any time, give him a call, he'll be more than pleased to confirm any contacts made from this unusual mobile station. ■

LEFT: Antenna mounted on bracket on side of Indian Pacific guard's van.

BELOW: TenTec Argonaut 509 in operating position on a goods train. Regulator for reducing 24V DC to 12V on floor of train.



COMMERCIAL KINKS

RON FISHER
VK3OM

Modifications to the FT-101 to cure strong signal overload, published in the November 1978 issue of *Amateur Radio*, has proved to be useful to many 101 owners, but at the same time perhaps caused a little confusion where the details do not exactly apply to your particular transceiver.

A recent letter from Les Diener VK5NJ helps to sort some of these problems out. Over to Les.

Having implemented the modifications on my FT101B I find the results most pleasing and certainly transform what is normally a noisy receiver into a really first class unit which would compare favourably with any good "ham" band receiver. The signal to noise ratio is the most noticeable improvement even though the mod. is essentially intended to reduce front-end overload. It certainly does this also.

Previously I have been most satisfied with the AGC amp designed by Arn VK5XV, using a UA741 IC, and this certainly eliminates front-end overload, but the ZL2BAF mod. of applying AGC to additional stages is better and is a sound theory and good design practice.

Actually some sorting out was necessary with my particular unit, Serial No. 107936, as several minor points did not agree with the article and are described as follows:—

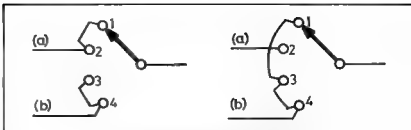
1. The bi-polar transistor preceding the noise gate is Q1 in my unit and not Q2 as stated in the article.
2. The base bias resistors are R1 and R2 (4.7K and 22K respectively) and not R5 and R2.

Once this was sorted out the job was quite simple. Actually, resistors of 1 meg and 2.2 meg were used in lieu of 1.8 meg and 1.2 meg as recommended, the latter values not being on hand.

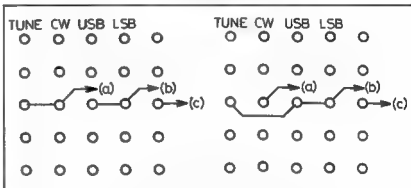
A complete re-align (as described in the handbook) was necessary to make sure all circuits were peaked, but overall the modification is a very worthwhile improvement for any FT101."

Now a simple modification to the popular TS-520 from Alan Bolton VK5TT. This one will interest the CW operators.

The CW filter of the TS-520 is much sharper than the SSB filter, which is ideal when listening to a CW signal once it is tuned in. When tuning across the band for a CW signal, or listening to a reply to a CQ call, the wider bandwidth of the SSB filter is more convenient. This filter can be selected using the mode switch by turning to the USB or the LSB positions, but this also effects the audio note of the CW signal. This means that once the signal has been identified with the wider filter it is difficult to switch to the CW filter without losing it.



Physical layout of the mode switch contacts viewed from underneath
(a) — brown (to CW filter)
(b) — orange (to SSB filter)
(c) — orange (output of switch)



Circuit diagram of the change to the mode switch
1 — Tune 2 — CW 3 — USB 4 — LSB
(a) — brown lead to CW filter
(b) — orange lead to SSB filter

It is possible to change the TS-520 mode switch so that the tune position is used to give the wider SSB filter with the same audio note as for CW reception. Normally the tune position on the TS-520 uses the CW filter; changing to the SSB filter simply involves changing over one lead on the mode switch.

The mode switch has 5 wafers, and the filter selection is on the centre wafer. Access to the lead is obtained by removing, in sequence, the TS-520 covers, dial, knobs, nut on channel select spindle and then the decorative front panel. Then the JYJ/WWV switch can be unscrewed and moved, with the leads still connected. The mode switch can be moved also, giving access to the terminal to be reconnected. The physical layout of the mode switch contacts are as shown.

After this modification the tune position can be used to locate the CW signal with the wider filter. Once the signal has been found the audio frequency can be adjusted so it will fall within the narrower passband of the CW filter while the mode switch is in the tune position. The audio note will now be unchanged when the CW filter is used. It should be noted that on the wider bandwidth some CW signals may be on the

Incorrect (upper) side of the demodulating carrier, but this can be realized by tuning across the CW signal. The fact that the note of the CW signal is unchanged when switching between filters makes the search for them far more convenient."

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NOVICE NOTES

THE CQDX RADIO GROUP

I became an amateur purely by coincidence. I spent most of my life as a musician but gave that away shortly after I married. I'd heard of Amateur Radio of course, but I'd always imagined that the level of knowledge was far too hard to obtain. Through my love of music I'd developed an interest in the technical side of audio, and that was the field in which I was involved when our son Robert was born. The night he arrived on the scene changed so many things that I find it fascinating to look back and see how many people's lives it changed. This article is to do with radio so I hardly think it is relevant to mention the obvious changes that occur when a man becomes a father for the first time.

Quite a few people had said they could not imagine me walking down the street pushing a pram, but that is in fact just what happened. The difference was that I had a one channel walkie-talkie antenna sticking out of the "Mobile" and Mum was back at the "Base" with the other unit. I can't remember what the call sign was now . . . V followed by about five

figures I think. But at any rate it was very useful for obvious reasons.

The puzzling part was that I kept hearing strange call signs such as "Foxtrot Charlie One" and others, and I found that I was not the only one on the air. Evidently there was something called CB around which needed investigation. I became a CBer, and CB then was a little bit different from what it seems to be now.

I will never knock CB because it brought together a lot of very decent men (and women) who might otherwise never have got to know each other. What fun we had, ragchewing, looking for "Clowns", having "Eyeballs", etc. A mixed bunch of guys and gals, but within that bunch quite a few were genuinely interested in radio communication. When AM CB became crowded we moved "Up" to sideband. The lure of skip and "DX copies" added to the interest and the nucleus of a club formed, although we didn't know it then.

I couldn't help thinking that there had to be something more to radio than this. A chance meeting with Howard VK3ZJY, who was instructing Amateur Radio, found me attending his classes. I discovered that the best way to learn is to teach, and I set up a radio school for the members of our little group at my home. Three of us subsequently obtained licences and that attracted a few more.

By now the CB scene had become what it is today, and the serious radio enthusiasts were tending to go all out for their Novice licences or move into the UHF bands on CB. Many still stayed with 27 MHz so our Club, the CQDX Club, was formed, with myself as secretary. Initially, most of the members were young, but now more of the older men were joining and many are the same ones who used to ragchew on 27 MHz sideband. The wheel is turning full circle, but the circle is far far wider.

I find it difficult to describe my feelings when I first set out with my own "Call". It was like watching the world from behind a window, then suddenly walking outside with the horizon stretching in every direction. Romanticism . . . perhaps, but that's how I felt and I wonder how many others have shared that feeling. My Instructor Howard, Harry VK3EK, Len VK3NAC and others had demonstrated courtesy and proper procedure, as I watched them operate their stations and I have tried to emulate this and in turn pass it on to the members of our group . . . thus the reasons for my notes.

Generally I have found that by nature most amateurs are Individualists and I accept each in this way. Such thinking is reflected in the Constitution of our Club, membership being open to anyone with a genuine interest in radio COMMUNICATION, and I stress the last word, as it includes CBers, SWLs, Amateurs or anyone interested in the interchange of ideas between people. Radio just provides the com-

mon ground. Maybe we don't all live up to such high ideals, but I think most of us try.

The name was of course derived from the fact that CBers and Hams alike use the term CQDX . . . it means I wish to talk to someone . . . what a good idea in the materialistic world we live in these days.

I like DX . . . those who have heard me working late at night will doubtless confirm this, but I also like to stop and talk . . . to find out something about the other guy providing of course that there are not others waiting in a pile up, and at least then his card, if and when I get it, will mean just that much more. If Robert ever follows in my footsteps . . . I sincerely hope that this is one aspect of Ham Radio that he will adopt . . . he got me into it, I hope he carries the tradition on.

If anyone is interested in the Club or its ideals and aims, the address is PO Box 79, Heidelberg 3084, Victoria.

Trevor C Reid VK3NNR

EDITOR'S NOTE:

From next month, we shall commence serialising parts of the CQDX Radio Group Handbook. It will make interesting reading to all novices and newcomers (VK3UV). ■

★ ★ ★

MIDLAND ZONE FIELD DAY

To stimulate interest of the Novice element in the Zone all stations in the Field Day Contest 10/11 February 1979 with the exception of the 2 metre section were manned by novice operators using novice power, all of which was within the 30 watts PEP allowed, 80 metres proved to be the highest scoring section in the six hour period with contacts into VK1, 2, 3, 4, 5 and 7, and ZL1, 2, 3 and 4 zones from a



VK3NND watches VK3BIP and VK3AGM complete running repairs



Trevor Reid VK3NNR with son Robert, who has "worked" several Stateside amateurs under supervision. Two-and-a-half year old Robert has been given the handle "Big Bubba One" by some of the locals.



Joan VK3NLO (nice lady operator)

(Midland Zone photos by courtesy Geoff VK3NTN and printed by Harmonic of VK3NOV)

simple co-ax fed half wave dipole strung up a gum tree, I suppose being about 630 metres above sea level, helped a bit.

The 2 metre boys had a very productive six hours both on 2 metres FM and SSB, and the assistance of several of the AOC members in the zone with their knowledge of antennas and how to get them into the air quickly was fully appreciated by all novice operators.

This was a very good exercise for our novice operators and next year we hope to give other zones and clubs a run for their money. Gallions of coffee were consumed,

but there was a singular lack of 807s. The journey down the Mount was very enjoyable with the 10 metre mobiles taking full advantage of the propagation at 1.00 a.m. on Sunday morning, with running commentaries of the skill and otherwise of the drivers who had not been up to one of the highest points in our Zone. Amateur radio is a hobby much enjoyed by our novices in the zone and we look forward to advancing in the skills required for that "full ticket", field days take you a long way in giving you the incentive to study and up-grade your licence.



L. to R.: Murray VK3AMP and Norm VK3BNU on 2 Mx FM with George VK3ZZI solo on 2 Mx SSB. Don LJ1093 and his children in background.

BELOW: Murray VK3NOV, Zone Secretary on 10 Mx SSB.



VK3ATO/P Mount Alexander, near Harcourt, the voice of the Midland Zone, WIA, Victorian Division.



AROUND THE NOVICE SHACKS



Stan Tayler VK3NGN is one of the more active members of the Western Suburbs Radio Club in Melbourne. Stan licensed since 1977, operates either his TS-820 modified or an FTDX400 modified into a three element tri-band Yagi, and on 80 metres uses a mobile whip mounted above his superbly constructed shack. Stan recently was voted Secretary of the club for the second consecutive term, an indication of the excellent job he does.



Formerly a VK6 novice, Ward Long is now VK3NAJ and has a very impressive and extremely operational shack, complete with a recently installed tower and TH6 tri-band beam. Ward is also active in the mobile with an FT7 and helical whip. And as you can see by the photograph, Ward plays a mean golf round as well as having a mean signal on HF!!

THE ITU WARC SEMINAR— SYDNEY

The MLC Centre is a tall octagonal building in the heart of Sydney, Australia. On the 50th level spectacular views of the Harbour Bridge, the Heads and even in the distance Botany Bay can be seen from every window

It was in this magnificent setting that the third of the ITU Regional Seminars was held, the others being held in Panama and Nairobi. 170 people took part from 37 countries and organizations. The Seminar was held on the 29th March to the 10th April, 1979, and was opened by the Australian Minister for Posts and Telecommunications, Mr. A. Staley.

The main purpose of the Seminar was to familiarize the many countries who will be attending their first Radio Conference, the World Administrative Radio Conference 1979, with the requirements for revising and updating the Radio Regulations. The Seminar also discussed topics of interest to countries in the Region, including communication problems associated with island countries and the use of high frequency radio for domestic communication.

On Saturday, the 31st March, the Wireless Institute of Australia, for itself and for the International Amateur Radio Union, hosted a reception in honour of participants on the 50th level of the MLC Centre.

Amongst guests were the Secretary-General of the ITU, Mr. Mill, and Mr. R. E. Butler, the Deputy Secretary-General.

In an adjoining area a continuous

videotape showing Amateur activities and relating those activities to the definition of the Amateur Service in the Radio Regulations was shown and many of the guests took time to watch this 5½ minute segment. Booklets from IARU Region 2, with an insert giving names of IARU Region 3 member societies, describing the Amateur Service, were available and very many of the delegates accepted these booklets.

An IARU receiver was on show on a corner table and attracted considerable interest. Delegates from many countries,

particularly from developing countries, were very interested in this example of a low cost receiver, capable of receiving SSB and CW, that could be simply assembled.

For the small number of prominent Australian Amateurs who acted as host during this reception it was a wonderful opportunity to meet those involved in frequency management from so many countries and, in many cases, to answer their questions about Amateur Radio.

Michael J. Owen VK3KI.



WIA Federal Vice President, Peter Wolfenden VK3ZPA shows the IARU receiver to a delegate from Sri Lanka.



Federal President of the WIA, David Wardlaw VK3ADW, with ITU Secretary General, Mr. Mill and WIA IARU Liaison Officer, Michael Owen VK3KI.



At the Seminar — l. to r.: Mr. Sul Hongliang, Michael Owen VK3KI, David Wardlaw VK3ADW, Mr. Nie Banggno, Mr. Zhao Xintong, Mr. Ding Yixing and Mr. Liang Shi — the delegates from the Peoples Republic of China together with the Australian Amateur delegates.

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YC-601. Digital readout Adaptor
for FT-101E

\$279.



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201AXX. New Model.....	\$175
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1103MXX Extra Heavy Duty.....	\$395
502 Mast Clamp.....	\$32
103 Mast Clamp.....	\$22
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VCTP-6. 6 Core Cable, per Metre.....	\$1.00
VCTP-5. 5 Core Cable, per Metre.....	\$0.90

"YAESU" FT-101ZD

FT-101Z 160-10 M Adj. N/B IF shift.....	\$775
OPTIONAL	
DC-DC for 101Z.....	\$39
SP-901 Ext. VFO.....	\$79
FT-901D-M R/VFO.....	\$439
FC-901 Antenna coupler.....	\$269
YC-901 Panoramic adapter, monitor scope.....	\$499
TV-901 6M, 2M, 70 cm A/U Inc.....	\$839
SP-901 Ext. speaker for 901-101Z.....	\$53
FRG-7 Communication receiver.....	\$319
FRG-7000 Communication receiver.....	\$595
LF-2A Narrow band filter FRG-7.....	\$20
FT-7B 80-10 M Transceiver 100W.....	\$639
YC-76 Digital display for FT-7B.....	\$123
YE-7A Hand Mic for FT-101Z.....	\$21
YD-148 Desk Mic for all Yaesu.....	\$49
YP-150 150 Watt dummy load and Watt meter.....	\$112
FL-110 Solid state amp. 160-10 M.....	\$239
FL-210CB 1200 W Amp.....	\$POA
QTR-24 24 hour world clock.....	\$53
YC-500 Freq counter.....	\$POA
FT-227R 2M. Digital transceiver.....	\$329
FT-227RA 2M Scanning digital transceiver.....	\$379
FP-30DX Low pass filter 2 kW.....	\$40
YD-101 Monitor scope for FT-101E.....	\$379
YC-601B Digital display, Freq counter FT-101E.....	\$279
FT-101E 160-10 M. Transceiver.....	\$POA
Optional X-tal filters FT-901, FT-101Z.....	\$59

MONO BAND BEAMS.

AB 3-10 • 3 el. 10 M.....	\$89.-
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AB 4-20 • 4 el. 20 M.....	\$159.-

MULTI BAND BEAMS.

AM 4-2 • 15-10 M.....	\$159.-
-----------------------	---------

YAESU Mobile Antennas

RSL base mast Inc. 2 M.....	\$29
80 M. Resonator.....	\$22
20 M. Resonator.....	\$21
15 M. Resonator.....	\$20
10 M. Resonator.....	\$20

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AMV-5 • 80-10 M.....	
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IC-280 Mobile 2M Digital Transceiver.....	\$449.
IC-701PS. Power Supply.....	\$250.



ANTENNA COUPLERS

HC-75 Tokyo Hy-Power Labs Transmatch 75W PEP.....	\$69
HC-250 Tokyo Hy-Power Labs Transmatch 250W PEP.....	\$85.
HC-500A Tokyo Hy-Power Labs Transmatch 500W PEP Inc 160M.....	\$119.
HC-2500 Tokyo Hy-Power Labs Transmatch 250W PEP.....	\$199
AT-200. Kenwood. 200 Watts.....	\$184
FC-301. Yaesu 500W Inc SWR and PWR Meters.....	\$239
FC-301. Yaesu 500W Inc SWR and PWR Meters.....	\$269

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TS-520S 160 10 M Transceiver AC.....	\$POA
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DS-1A DC-DC for TS-520.....	\$79
TS-820S 160 10 M Transceiver.....	\$1392
VFO-820 Ext. VFO for 820.....	\$195
TS-120V 80-10 M Transceiver.....	\$POA
VFO-120V Ext. VFO for 120.....	\$148
PS-120 Power supply for 120.....	\$110
SP-120 Ext. speaker TS-120.....	\$40
SM-220 Station monitor scope.....	\$319
BS-5 Panoramic adaptor for 520S.....	\$66
BS-8 Panoramic adaptor for 820S.....	\$66
AT-200 SWR meter antenna coupler.....	\$185
RD-300 Dummy load 150 mW-300W.....	\$79
TR-762S 2 M-25 W. Digital.....	\$465
MC-10 Hand mic.....	\$21
MC-35S Hand mic. noise cancel.....	\$26
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YG-3395C CW filter for 520.....	\$59

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To mark this special occasion, all products sold during the month of JUNE will be sold at greatly reduced prices.

HERE ARE SOME OF OUR JUNE SPECIALS

NATIONAL RJX1011D — the king of all transceivers ~~\$1990~~ now \$1690

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FT101E Transceiver AC-DC	\$775
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FT301D Transceiver Digital	\$890
FP-301 AC Power Supply	\$165
FRG-7 Receiver	\$315
FRG-7000 Receiver	\$595

KENWOOD PRODUCTS

TS-520S Transceiver	\$850
TS-820S Transceiver	\$1090
TS-120V Mobile Transceiver	\$550

DENTRON PRODUCTS

GLA-1000 Linear Amplifier	\$489
HF-200A Transceiver	\$725
MLA2500 Linear Amplifier	\$1199
CL PPERTON-L 2kW Linear Amplifier	\$975
MT3000A Antenna Tuner	\$447
MT200A Antenna Tuner	\$270
SUPER TUNER — Plus	\$208
160/10AT Super Tuner	\$176
JR Monitor	\$104
80/10AT Tuner	\$85
W 2 Wattmeter	\$145
BIG DUMMY Load	\$43
DTR-2000 2KW Linear Amplifier	\$1459
ALL BAND DOUBLET	\$33.50

B & W PRODUCTS

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Model 334 Dummy Load Wattmeter	\$221
Model 374 Dummy Load Wattmeter	\$265
AT-200 Antenna Matcher 2 metre	\$38

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HF-3-100L2 Linear Amplifier	\$225
BI-LINEAR VHF Model	\$298
28-432 Low Noise Preamplifier	\$42
PA-28, VHF Inline Preamp, Low Noise (10m)	\$54
PAI-50B, VHF Inline Preamp, Low Noise (5m)	\$54
PA-144B, VHF Inline Preamp, Low Noise (2m)	\$54
OSCARBOX J, UHF Down Converter	\$96

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Model 300 RTTY and ASCII Keyboard	\$564

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Robot Scan Converter	\$855
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KAUFMAN	\$23
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JB1001SFCM Scope/Wattmeter/SWR	\$379
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FT-101/101E W/S Maintenance Manuals	\$27
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Add P&P \$2.50 per manual	

FT-7B Transceiver	\$620
YC-7B Digital Readout for FT-7B	\$125
FL-2100B Linear	\$650
FT-227R 2m FM Digital	\$330
YC-500S Counter, 500 MHz	\$499
YC-500E Counter, 500 MHz	\$656
YP-150 Dummy load/power meter	\$112
SP-901 External Speaker for FT-101 and FT901	\$56
FTV-901R, YO-901, SP-901P, F-101, & DC Kit	\$78A

CW Filters for 101Z and 901	\$63
CW Filters for FT-101E	\$50
FRG-7 Receiver	\$319
Battery holder for FRG-7	\$10
LFC-2A Selective SSB filter for FRG-7	\$20
FRG-7000 Digital Receiver	\$599
QTR-24 World Clock	\$35
YH-55 Yaesu Headphones, 8 ohm	\$19
YD-644 and YD-148 dual impedance desk mics., 600 ohm/50k ohms	\$49
YE-7A 600 ohm and YD-846 50k ohm hand mics.	\$21.50

RS Series Yaesu HF Gutter mount mobile Antennas — RSM2 base inc. RSE2A stub mast, with Co-ax. cable attached	\$29.90
Resonators — RSL-3.5 \$22, RSL-7 \$21, RSL-14 \$20, RSL-21 \$19, RSL-26 \$19, RSL-145 (5/8 2m) \$24.	
6J56C P.A. Valve FT-101E	\$11
Other Yaesu valves also available	

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Also available Rubber ant., optional hand mic., mobile adaptor, Niced batteries.	

The above list is not complete. There are many more items available. Contact us for your requirements. Above prices (P&P) no ST Freight is extra. Prices and specs. subject to change. 90 day warranty on sets, excluding power valves and power transistors. Full service facilities and comprehensive range of spares. Most items ex stock at time of advert preparation.

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103 LBX \$165, 502 CXX \$255, 1103 MXX \$395,
1102 MXX \$365.

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For 103 \$19, 502 \$29.50, 1102 and 1103 \$45.

FLEXIBLE COUPLERS:

For 103 \$16, for 1102/3 and 502 \$32.

Mast and Tower Top Bearings

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LP-7 \$6.50, TV-42 \$15, TV-476 \$10, FF-501DX \$39.

ANTENNAS:

TH6DX \$275, TH3JR \$195, VS-33 \$249, DX-33 \$215, DX-32 \$135, DX-34 \$255, AM4-2 \$159, VS-20C, \$145, VS-11CV \$89, VS-41/80KR \$109, VS-RG \$26, 18V \$38, TD-1 \$66.
(Note: The Hidaka 'VS' beams no balun; VS-33 & DX33 equiv to TH3 — Mk II DX-32 & DX-34 are 2 and 4 element versions. All heavy duty construction, 2 kW rating)

DENSO 430 Anti-Corrosive Compound for jointing antenna & beam elements, per tube \$2.90
add \$1.10 P&P

Hy-Gain BN-66 balun \$29
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Co-Ax Switches, TWS-120, 2 position \$16
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Antenna Egg Insulators, Porcelain 50c

ANTENNA COUPLERS:

HC-75 \$85, HC-250 \$89, HC-500A \$119, Yaesu FC-801 \$246

SWR METERS:

RS-101 \$7.50, SWR-40 \$15, SWR-200 dual \$75, FSI-5 dual \$29.

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HK-708 \$14.99, HK-706 \$25, HK-808 \$85, Morse osc EKM-1A \$13.90, Practice set TC701 \$19.50



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TS-820S series
If you require a more progressive HF Digital Transceiver then move up to the functionally engineered TS-820S Pacesetter rig.



Due to production delays overseas, the TS-120S and the TS-180S Transceivers previously advertised will not be available until the end of June.

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31 Whiting Street, Artarmon, Sydney, N.S.W. 2064. Telephone (02) 438-1277

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PLUS MANY OTHER REGIONAL OUTLETS THROUGHOUT AUSTRALIA

VK/ZL/OCEANIA DX CONTEST — 1979

The WIA and NZART, the national amateur radio associations in Australia and New Zealand, invite world-wide participation in this year's VK/ZL/Oceania DX contest.

PHONE

Phone — 24 hours from 1000 GMT, Saturday, 6th October, to 1000 GMT, Sunday, 7th October, 1979.

CW — 24 hours from 1000 GMT, Saturday, 13th October, to 1000 GMT, Sunday, 14th October, 1979.

RULES

- The sections in the contest are:—
 - transmitting phone, 24 hour period,
 - transmitting CW, 24 hour period,
 - transmitting phone, 8 hour period VK/ZL only,
 - transmitting CW, 8 hour period for VK/ZL only.

- All amateur bands may be used, but no crossband operation is permitted. NOTE: VK/ZL stations, irrespective of their location, DO NOT contact each other for contest purposes EXCEPT on 80 and 160 metres on which bands contacts between VK and ZL stations are encouraged.

- Only one contact per band is permitted with any one station for scoring purposes.

- Only one licensed amateur is permitted to operate any one station under the station's call sign. Should two or more operate any particular station, each will be considered a competitor and must submit a separate log under his own call sign. This is not applicable to overseas competitors operating club stations.

5 CYPHERS

- A serial number of five or six figures will be made up of the RS (phone) or RST (CW) report plus three figures, beginning with 001, increasing in value by one for each successive contact.

6 8 HOUR SECTION (FOR VK AND ZL ONLY)

- Operate on must be continuous and a 24 hour entrant cannot enter this section.

7 SCORING

- For Oceania stations other than VK/ZL

2 points for each contact on a specific band with VK/ZL, and
1 point for each contact with the rest of the world

- For rest of the world other than VK/ZL

2 points for each contact on a specific band with VK/ZL, and
1 point for each contact with Oceania stations other than VK/ZL

- For VK/ZL stations

1 point per contact, multiplied by the prefixes worked on that band
NOTE W1, K1, WA1, A1, N1

(although in same call area) are different prefixes and count as multipliers, WGAA/1 is same as above and counts as W1 and not W6; JK1AA/5 will become the common prefix for the "5" area, namely JA5

- 80 metre section

For contacts between VK and ZL, each VK and ZL call area will be considered a "scoring area", with each different call area counting as a multiplier

- 160 metre section

As for 80 metres, plus contacts for scoring permissible between VK/ZL, ZL/ZL

8 LOGS

- Logs to show, in order — date, time in GMT, call sign of station worked, band, serial number sent and received. Separate log for each band required

Summary sheet — to show call sign, name and address, and each band, QSO points multiplied by VK/ZL call areas worked

All band score will be total QSO points for all bands multiplied by total VK/ZL call areas worked on all bands.

- VK/ZL stations — as for overseas stations and the summary sheets to show call sign, name and address, and each band, QSO points multiplied by prefix worked on that band. All band score will be total of single band scores.

Signed declaration that all rules and regulations have been observed also required

IMPORTANT NOTE

Should a VK or ZL entrant so desire, submission of a summary sheet signed by at least two other operators, who need not have been in the contest, will be accepted by the contest manager, who reserves the right to call for the log should he so desire.

AWARDS

World wide, except VK/ZL

- Mounted medallion to top world scorer
- Bronze medal to top scorer in each major area of contest activity
- Top scorers in each country (call area WJ1) will receive a certificate. Depending on activity, other awards may be made.

VK and ZL stations

- Mounted medallion to top scorer in VK and in ZL (two medallions)
- Bronze medal for top scorer of each band for VK/ZL (six medals).
- Top scorers in each call area of VK and ZL

- Top scorers in VK and ZL on each band

ENTRANCE

Should be posted to,—

WIA,
GPO Box N1002,
Perth, West Australia 6001,
or
VK6NE-WIA VK/ZL Contest Manager,
388 Huntriss Road,
Woodlands, West Australia 6018.

to arrive on or before 31st January, 1980

Results may be obtained by enclosing 1 IRC with your log—VK6NE. ■

HISTORICAL FILM

At this year's Federal Convention David Wardlaw VK3ADW, the Federal President, presented a copy of an historical wireless telegraphy film to the Institute.

The film, of French origin, does not deal directly with Amateur Radio, however, because of its age, it portrays wireless installations not unlike many amateur stations of the early days.

Originally, the film was on 28 mm (not 35 mm), a relatively rare film gauge which was used for early home movies and by educational institutes.



"The sparks fly as the operator keys" — a frame from the film

The copy of the film presented to the Institute was photographically reduced from 28 mm to 16 mm by Peter Lord VK3NPL at Victorian Film Laboratories using the "Wetgate" technique. This provides enhancement of the image by reducing the effects of scratches on the original.

Both "old-timers" and newcomers alike will find interest in this new acquisition which will be available via the Institute Videotape Co-ordinator, John Ingham VK5KG. ■

TRIAL AOCP EXAM

TRIAL AOCP EXAM — IN JULY, MULTIPLE CHOICE TYPE, CLUBS OR DIVISIONS. CONTACT ROY HARTKOPF VK3AOH, FOR DETAILS.

WARC 1979— WHY?

P. D. Williams VK3IZ
R. J. Kelly VK3NT
C/- Vicom

The basic appeal of the Amateur Service has probably been impaired by changes in allocation over the years. Congestion in some parts of the world and a confirmed opposition to amateur activity in other parts have contributed to decreased operations and no doubt, some technical progress.

Although there has been growth and innovation in especially in Australia, it is apparent that further reductions or even small changes in a negative direction will lead to a loss of many of the vital functions performed by the amateur service.

Of course, an increase in the allocations will be accepted in the spirit in which it is given. Hopefully, they will be wisely used to enhance the status of the amateur service. We, at Vicom believe that the amateur service has, as a base for its continued existence, the following arguments:

1. TECHNOLOGICAL DEVELOPMENT

Amateur radio can provide a source of self training in electronic skills, limited only by the effort the individual is prepared to put into it. Despite proliferation of "black boxes", an understanding of the techniques used, plus a desire to implement these principles in experimentation must stimulate the development of communications technology.

2. ECONOMIC CONTRIBUTION

Although not particularly appropriate in the Australian context, the indirect extension of amateur radio and related equipment into professional consumer and government markets must advance to play a role in raising the general level of technological knowledge.

3. THE NATIONAL IMAGE

Especially on DX bands, the image of the country is portrayed through personal and unrehearsed dialogue. Unlike international broadcasts which consist of political discussions and news with strong editorial undertones, the amateur service can project abroad a strong and creditable image of the nation.

In supporting the WIA and Region III IARU, we at Vicom believe that the Amateur Radio Service clearly emerges as a national and international resource whose value to any nation is great. Any attempt to prune this resource must constitute a serious loss. We welcome and support the activities of the WIA and IARU Region III. We hope all amateurs share this philosophy.

AMATEUR SATELLITES

Bob Arnold VK3ZBB

OSCAR 7

Despite serious battery failure the satellite is still operating and can be heard in modes A and B. Operation through these modes are possible on occasions, but please use restricted power. I am reinstating the predictions.

OSCAR 8

This satellite is now running four minutes earlier than the predictions given in previous editions. The predictions in this issue are appropriately corrected.

On some occasions AO8 has been

switched to mode J on Tuesday and Thursday in addition to the scheduled Wednesday, Saturday and Sunday. On some days both modes A and J are operable.

RUSSIAN SERIES

Both RS1 and RS2 appear to be in difficulty due to battery failure or damage to solar cells. RS1 telemetry is very weak. It is doubtful if operation will be possible through either of these satellites. Unfortunately reliable detailed information is extremely difficult to obtain.

VK4 DIVISION

Peter VK4PJ is now including a segment on amateur satellites in the weekly VK4 Divisional broadcast. I hope this idea will be considered in other Divisions where it is not already a part of the broadcast.

ORBIT PREDICTIONS — JULY 1979

OSCAR 7					OSCAR 8					RUSSIAN RS1				
	Orbit No.	Eqx. GMT	Eqx. °W	Eqx. °W		Orbit No.	Eqx. GMT	Eqx. °W	Eqx. °W		Orbit No.	Eqx. GMT	Eqx. °W	Eqx. °W
1	21155	0021	69	6729	0041	56	2265	0185	278					
2	21164	0115	83	6742	0046	57	2276	0200	248					
3	21176	0015	68	6756	0051	58	2288	0056	261					
4	21189	0109	81	6770	0057	60	2300	0029	264					
5	21201	0009	68	6784	0102	61	2312	0014	267					
6	21214	0103	80	6798	0107	63	2324	0019	269					
7	21226	0002	64	6812	0112	64	2335	0023	262					
8	21239	0056	78	6826	0117	65	2348	0028	265					
9	21252	0151	92	6840	0122	67	2360	0033	267					
10	21264	0050	78	6854	0126	68	2372	0037	270					
11	21277	0144	90	6868	0133	69	2384	0042	273					
12	21289	0044	75	6882	0138	70	2395	0047	276					
13	21302	0138	88	6895	0000	46	2408	0052	278					
14	21314	0037	74	6909	0005	47	2420	0056	281					
15	21327	0132	87	6923	0010	48	2432	0101	284					
16	21339	0031	72	6937	0015	50	2444	0106	286					
17	21352	0126	86	6951	0021	51	2456	0111	289					
18	21364	0024	70	6965	0026	52	2468	0115	292					
19	21377	0119	84	6979	0031	54	2480	0120	293					
20	21389	0018	69	6993	0036	55	2492	0125	297					
21	21402	0112	82	7007	0041	56	2504	0129	300					
22	21414	0012	67	7021	0046	58	2516	0134	303					
23	21427	0106	81	7035	0052	59	2528	0139	306					
24	21439	0006	66	7049	0057	60	2540	0143	309					
25	21452	0100	79	7063	0102	62	2552	0148	311					
26	21465	0154	83	7077	0107	63	2564	0153	314					
27	21477	0053	78	7091	0112	64	2576	0158	318					
28	21490	0147	91	7105	0117	66	2588	0002	289					
29	21502	0047	76	7119	0123	67	2599	0007	292					
30	21515	0141	90	7133	0128	68	2611	0011	294					
31	21527	0040	75	7147	0133	70	2623	0016	297					



Oscar antennae at VK3ZBB — Bob Arnold.

AROUND THE TRADE

SKI-BAR BRACKET

Something new on the market from Barry Chivers, 79 Naom Court, Bayswater, Vic. 3153, is the J & D cadmium plated ski-bar mounting bracket. Just the thing for Amateur or CB whips, and it saves one of those little 'problems' if you are



trying to make one up yourself from the junk box.

They are available for \$2.00 plus 50c postage.

Enquiries to Barry at the above address or phone (03) 729 3906 (A.H.)

NEW MFJ ANTENNA NOISE BRIDGE

GFS Electronic Imports, Australian agents for MFJ Enterprises, Mississauga, Canada, have just announced the release of the model MFJ-202 antenna noise bridge.

Housed in a compact 5 cm x 7.5 cm x 10.2 cm case it offers the user the ability to read pure resistance of the unknown device over a range of 0 to 250 ohms and both inductive and capacitive reactance with a ± 150 pF capacitor. Frequency range is 1 to 100 MHz.



Powered from an internal 9 volt battery the MFJ-202 makes solving antenna problems a breeze. For example Resonant frequency on the antenna can be determined, electrical half wave length of a transmission line calculated, input and output impedance of an RF amplifier may be found, baluns can be measured for impedance, velocity of transmission lines can be calculated.

With the addition of a Range expanding resistor the MFJ-202 may be used to make relative measurements up to 5,000 ohms and inductive capacitive reactance measurement up to 2,200 ohms.

Price of the MFJ-202 is \$78. For more information contact GFS Electronic Imports, 15 McKeon Road, Mitcham, Vic 3132. Ph. (03) 873 3638.

BWD APPOINTS SA DISTRIBUTOR

BWD Electronics Pty. Ltd., the manufacturer in Australia of precision instruments, announces that Protronics Pty. Ltd. is their sole distributor in South Australia and the Northern Territory.

The announcement was made during a recent visit to BWD Electronics by Bob Crebbe, Managing Director of Protronics. Mr Crebbe, on the left of



the photograph, is seen with Bruce Owen, Managing Director and Ron West, Marketing Manager for BWD Electronics at the signing of the agreement. Ron West said Protronics a live as an engineers and comprehensive service facilities would make a significant contribution to the already successful distribution of BWD products in Australia and would further strengthen local customer sales and service facilities.

A larger order has been placed by Protronics for items from the wide range of BWD products. In particular for the Powerscope, Oscilloscope, Signal and Waveform Generators, Power Supplies and 'Mini-Lab' (the teacher's friend).

Protronics address is 174-180 Wirral Street, Adelaide, SA 5000. Phone (08) 212 3111.

VICOM SUPPORTS WARC 1979

As a contribution to the effort in preparing and maintaining a presence at the coming World Administrative Radio Conference, VICOM have donated \$1,000 towards the Wireless Institute's funding for the project.

A spokesman for VICOM said that the Conference will have a profound effect on the long-term interests of both the Amateur fraternity and the viability of the commercial interests throughout the world.

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Russell Kelly VK3NT (Viccom Commercial Director) signs a cheque for presentation to David Wardlaw VK3ADW, WIA Federal President. Peter Williams VK3IZ (Viccom Technical Director) looks on.

VHF-UHF

An expanding world

Eric Jenson,¹
VK5LP



auto QW beam, running 300 mW (!) to a 6 element beam at 20 ft. The operator has no receiving equipment. See general notes for further information on this one.
Advising has just come in from that VK8RTT, the Casuarine beacon on 52 900, has been re-activated and will be running continuously. That's good news.

†† PY1RO is a new beacon, news of which comes via HLWV

If you scan the full list you will see a number of new beacons appearing under the attended operation category, namely HLSTG, K6FV, Z5LNL, J01YAA, all of which would be very useful.

SIX METRES

There is just so much going on at the moment on six it is difficult to know where to start and then when to stop! The distances being worked by individual stations are being extended all the time, currently it appears signals have been worked halfway across the world—you can't go much further than that—beyond that it would be difficult to say whether or not you were receiving a station the other way round! I think the easiest way to give you the information is to start with what David VK5KK has labelled and then can be added to as required. No matter what I include at the moment will not be the complete story, so much has been going on that hasn't really been reported, or it is heard as hearsay, which if I print it can be accused of lacking credibility, so if you have done something which should have been noted and you don't rate a mention, it is because you or anyone else hasn't told me. I get some off the air, but I can't be in the shack all the time. I do have to keep the wolf from the door, at times eat, and keep the peace with the YFV who is very understanding to see the least! And I still find time to shower!

From David VK5KK "24-3 to 27-3 good JA conditions to all VK call areas from 5.30-3.15 HRTG to VK3OT all 0245Z, marginal CW contact. Then on SSB to VK6KK, VK5ZJG, VK5ZMO, VK5SV, VK5AVQ, VK5LPL, VK6DO and to VK2BYX three times, signals 5 x 5 to 6 x 9 at peaks. Also HLWV worked VK5K 5.31 at 0310Z. Probably the first widely available HLS opening to date. The following weeks saw the same thing repeated over and over again. Most openings to VK2, 4, 5, 6 and 8, although several to VK3 and one excellent opening to VK7 on 3-4, and VK1 same day. HLSTG worked a lot of 7H (?) VK7, thus he has now qualified for WA in VU. The only explanation for the sudden upswing in HLT to VK7, contacts he perhaps the recent interest shown by both HLT stations towards VK more often. Conditions have certainly been good enough before.

"Also K6B has become more widely available to VK1, 2, 3, 4, 5, 6 and 8, mainly with Joe K6BDO, but also with K6JAKS, K6JAPL and K6GJDX. Openings fall into various time slots, e.g. 2245Z to 1530Z in VK5 at least. Some early morning openings have great flutter. K6BDO runs FT101 to FTV 650B to Tampa 620 with about 500 watts to a wide spaced 6 element beam.

"30-3 HLWV and HLSTG to 5 x 9 at 6240Z to most areas. Also JAs for 4 hours. 31-3 again to HLT plus JA, K6B and K6H. From 0900Z K6HIA to VK4, 5 and 8. At worked 10 VK5s, so what an opening! Signals to 8 x 8 on SSB, KHNS from 1100Z to VK5ZMO, VK5KK and VK5RD plus VK4s from Brisbane up. Frequency used, well 52.950! Feet's about this kind of usage of 5001 1/4 April Foot's Day didn't yield anything better, maybe. During opening, K6B and HLT worked 5 x 9 and 5 end up. Large night opening to JA from 1000 to 1300Z. Band open to VK2, 3, 4, 5 and 8, with the times 1000 to 1300 being the borderline for 5 x 9 signals! At least to VK5 anyway. 2-4: Another JA opening from 0000 to 0000Z, conditions to most States with peaks to 5 x 9. 3-4: Band open to JA, KH, HLT, K6B and VK1, 2, 3, 4, 5 and 7. Also notable contact VK3OT to KHNS. Claimed to be the first VK3-KH6 contact, but KH6 had worked to VK3 earlier in the year. Also that night some excellent backscatter contacts between VK4s and VK3s, including VK5KK to VK6B in Darwin, distance 1600 miles.

"On GMT day 2-4 some interesting easterly bearing DX. At 2320Z VK3OT to XE1GE peaking 579 on CW. At 2300Z also VK5KK to XE1GE 569

CW and 5 x 7 56B. Distance 8756 miles to Cuernavaca, which is 50 miles south of Mexico City. Geoff XE1GE runs a Heath HX30 to 6299 final. On receive he uses a crystal controlled converter in a Collins 75A2. A 6 element yagi at 60 feet. On previous recording XE1-4V contact was XE1RU to VK3ALZ. In 1959 which until now was still the VK distance record on six metres. XE1GE also heard by VK2BYX at least, and VK5ZMO and VK5ARZ 4-4. More night time JA to VK3 and VK5, etc. from 1000 to 1300Z, with HLSTG 5 x 9 1 1035Z GMT day 4-4 another excellent Central American contact, J5 15 time between VK4RO and K25NV at 2300Z. K25NV, Phil is located in the Panama Zone and had been heard the previous month by VK4B3B. Distance about 9400 miles, so things really are being worked on the VK lower States. KH6DO 0128 to 0300Z, VLT0 0100 to 0120Z, and K6GDX from 0000 to 0102Z. J47, JA8 from 0102Z. 6-4 K6GDX from 0002Z to VK5 at least. Later JAs from 0325 to 1002Z with 7 areas worked on FM on 52.150 and above, from VK5KK. Also small CW opening on 54 to VK3, 4, 5, etc. late at night from 1300Z to 1400Z. Also worked on backscatter on 6-4 at 0303Z 7-4 HLSTG at 0500Z JAs from 1310 to 1410Z. K6GDX from 1350 to 1402Z with usual 5 x 9 signals.

"Back towards the east on 8-4 VK4RO scratches that record to about the 2300 mark again when he worked VK5 and VK4G3B on SSB and CW between 0145 and 0205Z. W4YVS in the States was heard first. It is also understood Barry VK4ZBJ worked one of the above slots. Certainly proving to be the centre of a lot of DX activity on six with a so T124A being heard by VK4RO on 10-4 around 2202Z. And not forgetting 1-4 when VK1, 2, 3 and 4 VK1FT worked Gary W6XJ with 10 watts, 5 x 9! Close the way only two VK3 contacts, using 400 watts at that but the fifth call area missed out like 12-3 again! Must be a bad border area again. Signals across it all up before it gets here. Signals to 8 x 9 a few last. W6-VK opening, probably because it occurred on a weekend Time around 0000 to 0102Z. A so W6RMT San Diego amongst the DX 10-4. CW from 0750 to 0810Z to VK3, VK5 KH6GJ peaked 5 x 7 and 5 x 8. And also some CW work on 6-4 on 52.950 for complete opening. Signals heard by VK3NM, VK3AU and VK5ZZZ. VK5ZBU and VK5KK also XE1GE up again with signals heard on 8-4 on 50.055 559 from 2348 to 2352Z. XE1GE worked by VK3AOR at 2352Z split frequency on 5-4 on CW. Also heard 2352Z. VK5KK split 599 CW. XE1GE also heard by VK3NM, VK3CB at least, and VK5LPL. First signals from XE1GE at 2210! (And that's a pity!) Closed 2330Z. Later that day some Es to VK4RO from VK5 around 0700Z.

"On 12-4 at 0200Z W04YVS heard by VK5ZMO VK5KK on 50.103 opened at 0242Z. He was calling CQ. Then at 0404Z W4YVV came through and was working from 50.103 to 50.105. Also 56B to VK5ZMO. Also heard by VK5ZMO and VK5ZBU. The band shut shortly after [Shows you need to be on the ball for such brief openings. 8LP.] Last signal heard on 52 MHz was W4YVS on CW at 0047Z. For next 12 minutes some more extended peaks from W4YVS. Sub 1000Z a signal on 56B W4YVV, Carroll is located near Port Richey near Tampa, Florida, runs 600 watts to 6 element KLM at 90 feet. Distance 9980 miles VK3A7N, as hearing peaks of W4YVS later. On 13-4 VPM1T to VK3 3 and 5 from 0630 to 0702Z. VK5KK to VPM1T at 0047Z. 5 x 5 SSB. 2 stars 5300 at 0110Z. Some unconfirmed reports of hearings from VK2 for 13-4 and GMT day 15-4 when ZLS heard VPI around 2200Z. VPM1T located in Corra, Balize. Information British Honduras. Station was a DXpedition and disbanded several days later. Operator Bob had 70 watts to a 3 element yag. Very popular station on any band, especially six metres. Also later to 0130Z K6GDX on 50 MHz with very fluffy a gain. HLSTG testing to VK3OT, 5 x 9 at 50.010 at 0400Z, although no signals to VK3OT day 13-4. K6GDX 5 x 9 to VK6 and 5, etc. Also enormous backscatter between VK2 3, 4, 5 and 8 from 2345 to 0303Z GMT day 14-4. XE1GE heard again from 2315 to 2320Z, 514 on 50.009 MHz. Later JAs from 0200Z and VK4 v a 6045 to Z3LNL. Also 0230Z on the KH6FOI 5 x 8 from 0645 to 0731Z. M1 copy on 16-4 W4YVS on 52.010 bc heard via a rpg from 0110 to 0120Z by VK5KK, VK5LPL, VK5RO

AMATEUR RADIO BEACONS

Freq.	Call Sign	Location
50.001	WABMT	San Diego
50.004	PY1RO	Brazil ††
50.010	HLSTG	Seoul *
50.023	KH2PR	Haiti
50.026	Y5SRC	Jamaica
50.035	W4E2NK	Maine *
50.050	K6FY	California *
50.050	Z5LNL	South Africa *
50.075	KK3A	Columbia **
50.080	T12NA	Costa Rica
50.086	VE1BX	New Brunswick
50.091	W4J4R	Los Angeles *
50.082	WK7MA	Oregon *
50.101	F0DRB	Tahiti *
50.104	KH5EQI	Pearl Harbour
50.110	HLWV	Seoul *
50.110	K6GJDX	Guam *
50.110	J01YAA	Marcus Island *
50.110	KH8KH	Marshall Islands *
50.114	Z5LNL	South Africa *
50.500	5B4CY	Cyprus
51.999	JY3PV	New Caledonia
52.050	J01YAA	Marcus Island *
52.100	K6BDO	Cosy Base †
52.200	VK5VF	Darwin
52.300	VK6RTU	Perth
52.360	VK6RTU	Kalgoorlie
52.400	VK7RNT	Launceston
52.450	VK2WV	Sydney
52.450	3D5AA	Wakato
52.500	J42IQY	Nagoya
52.500	Z5VHM	Palmerston North
52.510	Z5LHMF	Mt Clime
52.550	VK6RTW	Albany
53.000	VK6RTT	Canberra †
53.000	VK5V	Mt. Lofy
53.100	VK5MA	Mawson ***
54.010	VK2WV	Sydney
54.400	VK4RTT	Mt. Mowbullen
54.475	VK1RTA	Canberra
54.500	VK6RTW	Albany
54.700	VK3RTG	Vermont
54.800	VK6VF	Mt. Lofy
54.900	VK7RTT	Ulverstone
56.000	VK6RTU	Perth
56.100	Z5VHMF	Auckland
56.150	Z5VHMF	Wakato
56.200	Z5VHMF	Wellington
56.250	Z5VHMF	Palmerston North
56.300	Z5VHMF	Christchurch
56.400	Z5VHMF	Dunedin
56.400	VK4RBS	Brisbane
56.450	VK6RFX	Belfast
56.475	VK6RTU	Ulverstone

* Denotes these beacons operate on an attended basis, i.e. when the operator is in the shack, or available, and the frequencies may vary according to the whim of the operator or how accurately he sets the dial, e.g. F0DRB was heard by me on 26-7-0 and 50-105, not 50-101 as listed; however, these stations are useful and so are included. There may be some others which you, if also noted them, if you see sure please at me know.

** This station appears to be a repeater, with an output of 50-075 and input of 50-125. PM. Probably more useful as an indicator for the USA.

*** VK5MA has never or not been heard for a very long time. Operation is therefore doubtful. I will let it for another couple of months, if no one disagrees then it can be deleted.

† Two new beacons VK6BDO is operating from Cosy Base in the Antarctic on 52.100 with

plus VK2 Later EA between VK5 and VK2 and VK4 from 1020 to 1100Z and After everyone had gone to bed John VK5ZBU worked KG6DX for a good 30 minutes from 1400Z at 5 x 9+, and VK3AKN but not other contacts.

SIX METRES CONTINUES

* On 17-4 VK6VU worked W7LYI and AA6S from 0355Z 5 x 9, also worked VK6GB worked also. Previously Graham had worked into W5. Band opened into VK4 twice with the usual early 2300Z time and repeating from 0200Z onwards. The later opening was better. This pattern repeats itself over the next few days. At 0612Z (in VK4) worked K6HCP and K6FV on SSB and CW. Ken also heard K6MYC (Mike Stahl of KLM) on 50 MHz but no contact. During previous days VJ6PV had been copied. Stationary many times but unfortunately Ken is having trouble with equipment during the wet season. Pity manufacturers cannot make amateur gear to be usable in really humid climates. However, con- gratulators, and yet another country for the only permanent 6 metre operator on VJ8. Back home JAs from 0845 to 1130Z on 17-4. On 18-4 not much activity on 6 m here but you should have heard it on 2885 KHz. One VK3 was pointing the beam (literally) at a VK5 for running a keyer on 28301 Hz. Later, from 1142 to 1310Z to 5 x 8 from the districts except 8. Also K6AHF (Chris) to VK5, VK5KK, VK5VAV, VK5Z2Z. VK5ZBU VK5LP and VK5RO to HLWV. Times from 1100 to 1240Z. Also VK5KK to JR6SVM, Okinawa at 1205Z. K6AHF runs a barefoot T5600 and peaked to 59. Band also open between JA and VK2 and VK2 to JR6SVM. Heard 2885 KHz. However, com- munication was audible to VK5KK, VK5Z2Z and VK5RO, although barely readable most of the time. Frequency 52.032. Also VK6CX copied same station slightly stronger but also didn't make contact. ARIK is on a Liberian oil tanker and was working JA's all x 8 from the Java sea area. The tanker was heard from 1400Z to 1500Z on 5 x 8. Heard station on 20-4. Not much hope VK working such a station with all those JAs so strong. 20-4 JAs (lower areas) 5 x 9+ from 0800 to 0800Z to VK2 3, 5, etc.

* On 23-4 K6BEI from 2320 to 0310Z, peaking 59 and never disappearing for more than 5 minutes! From 0252Z KG6DX, VK2 to VK3, 3, 5, etc., peaking 59. Around 0140Z K6HIAA to VK5KK, VK5ZBU and VK5BV, peaking 5 x 7. HL7FT 5 x 8 to VK5 and 5 x 9 and 0200Z. Also JAs from 0300Z to 0600Z on 5 x 8. Next day 24-4 K6BEI again from 2445Z to 29 unlit 0330Z. At 2325Z K6HNS to VK5BV, VK5KK, VK3AOR, VK3OT, VK3ALJ, VK3ATN and VK3AMK. Signals 5 x 7 in Adolla de and averaging 3 to 4 in VK3. Also heard 0200Z KG6DX worked VK2 3, 4, etc., to 5 x 7/8 in VK5 and 5 x 4 in VK3. From 0845 to 0335Z K6BEI heard in VK2 3, 4, 5, 6 and 8.

MORE ON SIX METRES

David VK5KK continues. "More generally the DX so far this year has outlasted all predictions, at least those based on the 1957-59 period. For those able to pick patterns in DX there has certainly been quite a bit to follow, e.g. take the openings like the following: ... VK4 and VK8 to K25, VK5 and VK5 to VP1, XE1; VK4 and VK5 to W4, 1400Z to 1405Z, etc. etc. on medium bands. In general, look for an easier year. They almost all occurred between 1-4 and 14-4. XE1GE appeared to VK2, 3 and 5 many times in this period between 2000Z and 0000Z. However, the other contacts to W4, W5, K25 and VP1 all occurred between 0000Z and 0200Z. 2L to W6 has occurred as early as 1800Z to 1815Z, and as late as 0000Z to 0015Z. 27 day cycles? The only VK3 to W6 opening, and probably the best W6 openings, occurred 12-3 and 7-4 27 days apart! The W openings started in early March with afternoon openings and only after 18-4 did the same afternoon conditions return to VK4. By then the peak of conditions for the lower States had passed. Also VK5OX and VK5ZCC, and Perth stations to a lesser extent, have been copying K6HGF almost 6 days out of 7 from 1-4 to 20-4. Path is approximately equivalent to VK2-W6 yet seems to be slightly more consistent deep to lack of contacts. Most noted calls during W openings are VK5RA, VK5K1F, VK5ZCJ, VK5ZVX, VK5Z2Z, VK4DQ, VK4HD, VK4PU, VK4ZBJ etc. And finally what could be the tatter on KG6 signals from 2000 to 0130Z? Any

enter on this one as it is very consistent and regardless of signal strength, i.e. can be S1 or S9. Has it got anything to do with the fact that Guam is directly below the Magnetic Equator? In fact, although not as bad as usual for those lucky enough to have had it propagation is quite evocable and a lot faster than TEP 2. It is a morning "hangover" form associated with the previous night's TEP? Some feedback from VK4 and VK8 stations on the intensity of TEP the night before may help. Some of the above may be a bit doubtful but is presented to allow some light towards this unusual little type of opening.

OVERSEAS AND OTHER DX WE MISS

"Amongst other outstanding overseas contacts comes Z56 to K8H. On 16-4 from 0645 to 0847Z Z56LN worked K8H1H, K8HNS, K8H1AA and K8H4S1. Greatest distance being between K8H1AA and Z56LN, about 11,800 miles, is not far short of the present world record. The other contacts are now about 9900 miles, although the VK5 could scoop the pool by working to VP9, Bermuda. Quite possible, as it is only 1200 miles out from W4. Bearing from K8H6 was 240°T, which is down this way in fact, most times K8H6 tried to Z56, the VK8 beacon was audible in K8H6 and vice versa. Also Z56LN worked K8H6 on 16-4. Possibility of V86, K8H6Q1, VK8RO heard Z56LN on 90 MHz, over 2 MHz difference doesn't help at these times! But is VK the stopper for such contacts, or does it fly over us, say, 100 miles up?

* 30DCM has been working from W4, W5 and W6. ZK1AA is now active with a Clegg (Venus) and can operate on 50, 51 or 52 MHz. He has worked K6HNS Antenna KLM for 4 days. Possibility of V86 (Palmira Is.) and CG6A (Easter Is.) being activated on 6 metres although a difficult path for VK. Some state news (or it will be), INTBSMK (actually JAB6MK), Nepal, will be active on 50/110 and 52/045 from 2-5 to 6-5. However, he has a licence to operate for the next 12 months so he may be working on 6 metres for some time. Also Y8BX has obtained permission to work 50 W5 and 52/05 from 28-4 to 6-5. Only information to be exchanged are RST reports, one of the provisions because 6 metres is not allocated to Indonesian operators. Permission was obtained on the understanding it is simply a propagation test. QST to JATUT. Watch out for JATUT repeater in Columbia. Often heard in USA and provides indicator for South American openings to US, input is 50/125 and output 50/075 MHz. Mode FM. And locally, who is it that works JAs on SSV on 52/015 MHz? Absolutely no complaints about the frequency but I hear I had a SSV monitor! What about RTTY too? Wonder how it happens to the picture when TEP 2. Bitter salt in."

Again many thanks, David, for the complete coverage you have given of the 6 metre scene. Does not leave a lot for me to fill in! The reason such good coverage of activity from VK5 is given is fairly obvious, firstly we live here, but more importantly, David is the only one who takes the time to write to me with such complete information, and he doesn't have to be prodded either, and that's worth a lot. Being a dedicated VHF operator and with a great interest in propagation, it is inevitable he will have a lot of information at his fingertips, but most will agree his notes are pretty well all embracing and shows what is happening in the world of 6 metres.

In writing the above paragraph I would not want any readers to feel the letters they send to me are not acceptable, every bit of information I receive is studied and used where possible, and I am grateful for the continuing information which comes into my office, but we are sadly lacking information from VK4 and VK2. Some comes from Tony VK6BV, but covering that end, each week we miss news from VK4 and VK2, nothing these days from VK8, so that's where everybody fits in.

OTHER SIX METRE NEWS

2L seems to enjoy contacts with others not heard by VK very often. I refer to working H11 Dominican

Republic early April, and at that time 6 W States. Z58LN usually runs his attended beacon to 50/050 but during the K8H contacts was on 50/104. Z531R usually transmits on 50/100. In Darvel, Western H40D3, Solomon Is. 1222Z 5 x 9 and again on 28-4. Advised also there is another H44 station operating VK6GB has now worked 12 contacts on six metres. On 25-4 K8HNE heard VK6VF for 7 1/2 hours. 28-4 Commercial CW station operating DJJ 50/175 at 2347Z to 55 to 9, may be a Ph-phenomenon, same day HL7GT beamed on 50/1010 445Z for 1 1/2 hours. 29-4 VK5KH and VK5KP hearing W8X, 30/020 0030 to 0200Z 51-2, VK5KL tried for a long time to work split from 52/020 without success, listening on 2885 to Gary, once again the 2 MHz disadvantage shows up well. . . . W8XJ worked JO VK7GJ on 22-4 5 x 9.

26-4/78: I am sure this date needs special mention. It was probably one of the outstanding days for 6 metres. In fact, I think there are a few of the things which happened as we saw them from the US. Firstly, F08DR heard 221Z to 53, later to 59. 2313Z very strong backscatter signals to VK3OT and VK3AOR. 2326Z worked KG6DX 5 x 6. 2332Z worked VK6GF. Also Springs 5 x 5. 2355Z worked VKH2 5 x 5. 0002Z worked K6AA 5 x 6. 0014Z worked VK6BQJ 5 x 8. Then I had to go to the sat. miles. But those all at home worked plenty of JAs starting with JAT HL7GT worked by John VK5ZBU at 0447Z on backscatter, whilst HL7GT was beaming over China. Still beaming China, Gary worked VK2, 3, 4, 5, 6, 7 and 8. K6E01, K6G6J, K6G6F, etc. During 26-4 VK6BQJ worked 2885 KHz. Also heard Br. W6. Heard W44DX, JD1VAA Marcus is, also heard F08DR and VJ6PV heard W4 stations but unable to contact. K6H6Q1 very strong. Later at night from 1300Z many strong JAs were worked in VK5 and other areas, all areas contacted JA1, 2, 3, 4, 5 and 6 signals. 28-4 5 x 9. Last station worked at 1425Z. So it was a great day, no doubt many other VK areas did as well as, so the day would help to put the VK position even more firmly on the map though again our 2 MHz discrepancy from the remainder of the workable areas preclude the contacts with the more elusive stations which are only there for a few minutes. If we could only be permitted to go down and call them on their frequency with a view to either working split frequency or requesting them to look on 52 MHz, or even having a brief exchange of RST reports on 50 MHz would help. Surely no harm could be done if we were granted this a concession.

NEWS FROM VK5

Tony VK6BV passes on information re activity in the West, saying first of all that EA activity in the eastern States was rather poor this year. First JA openings occurred 18-2, then 10-3. 30-3 saw the first of the good openings to Japan with JA1, 2, 3, 4, 7, 9 and 0 from 0450 to 0532Z. 29 stations worked. 3-4, 17 JAs worked 1-4 to JA1, 2, 7, 8, 9, and 17 JAs with HL7GT from 0531 to 0747, 29 stations. JA1 worked on 2-4, 3-4, 4-4, 5-4, HL7GT. On 6-4 KG6DX on 52/020 at 0108Z for what was believed to be the first time to south of Western Australia. 7-4 KG6DX beacon on 53/110 at 0145Z. S7. Also heard in Brunelton at SS by VK6AM and others. 8-4 VK6WD, VK6ZKJ, VK6VU, VK6K2, VK6H6Q and usually others worked. 0565Z to 0630Z from 0108Z to 0110Z to K6H6Q1 beacon also. S9 at same time JAs 9-4, 11-4, 12-4, also split. Worked KG6GX KG6GJ for 2 hours around 0200Z. 13-4 K6H6Q1 beacon plus JA.

On 14-4 Don VK6KH heard and recorded the K8H6 beacon from 0135 to 0233Z, peaking 59. Unable to get K8H6 stations on via 28855 net W8XJ suggested checking the tape, and another CW station

was noted under the beacon, being W6XJ running his keyer 1 kHz removed! This is the first recorded copy of a W station on six metres in VK8 Russian arial on believed heard on 52000 0215 testing at 59. On 15-4 W6XJ beacon again into Perth 0135 to 0140, and during 2 to time Wayne VK6WVD heard and taped W6XJ on 50065 at 519. Also recorded by Tony VK6BV in Northern 2 minutes earlier at 01352. Same time open to KGS. . . Well at least we know the VK6 boys are sharing in the six metre spoils

NEWS FROM VK3

G1 VK3AUL sends two letters with a coverage of activity in the Box Hill suburban area of Melbourne. He commends the action of Gary W6XJ in co-ordinating the 28865 MHz net for six metre operators, which has proved to be immensely useful for liaison for a.s. metre openings, and no doubt has done much to overcome the problems associated with the 2 MHz difference when the US stations hear the VK and ZL TV stations. Such liaison first helped to ensure the success of the contacts between W and VK3 on 12-3, when W6XJ, N6CT, N6AZ, W6BNMT and AA65 were contacted by VK3OT, VK3AMK, VK3AKK, VK3AQR, VK3AUL, VK3AJG, VK3ZZZ and others. Same day openings to JA and later at night to KG6GX.

On 18-3 via 28865 were reports of the W6 opening to VK2, VK9 and ZL, but nothing heard in Melbourne. W6XJ also worked VK3PH at 2226Z, ZL1B1Q on Kermadec Is. and several other ZL stations. Four contacts on a.s. in a short space of time. Other Melbourne openings to JA were on 28-3, 30-3, 31-3. On 28-3, JA and HL6W1. 8-4 worked 3555 AA at 0933Z. 10-4, JA on 9-4 at 0903Z whilst tuning on 50 MHz. G1 heard an FM signal on 50.125, which could have been the Columbian repeater HK3J4. Beam heading was right.

G1 reports it pretty hard going in Melbourne due to the rubbish from Ch. 0, but a vertically polarized antenna of 4 elements has been giving him some success, and hopefully the removal of Ch. 0 later will see VK3 being heard much more regularly. Thanks for writing G1.

FROM JAPAN

MUN -AZTTO writes to say his 8 metre equipment consists of FT101 FR1C1 and FTV650, using two 6145 valves to give about 100 watts input 7 element yagi up 17m. Currently he is trying a T8600, home brew (near 100 watts input). He is Editor of 8 metres column "The Mob's Ham", a monthly magazine. He is 24 years of age, and he lives in Hamamatsu City, with a population of over half a million people! Included with the letter were details of the Indonesian Expedition with the call sign YB3X for 28-4 to 8-5, any reports of the OSL info. address being Yoshio Hayashi, 4-20-2 Nishigofondo, Shingawa, Tokyo, 141 Japan

EME HAPPENINGS

For a change of subject, Ray VK3ATN advises during the April EME session and using his 18 foot dish he heard VETB6G, ZESJ, a JAB. JAB was two W stations which were not identified. At the same time Chris VK5MC using his 20 foot dish contacted VETB6G, ZESJ, 5MSH and a JAB. All these hearings and contacts were on 432 MHz. Ray is now working to put his 28 foot dish on Meridian Transit position which will allow him to do the moon any time it passes within the field of view. He is currently doing Radio Astronomy work with his dish ZL2B6G and ZL3AAD are almost on 432 MHz EME, and a VK6 is working on a 20 foot dish Ray has also obtained a new type GAS FET for his receiver front and which should further aid his reception of the weak signals.

PORT LINCOLN NEWS

Peter VK5ZCT writes from Pt. Lincoln at the lower end of Eyre Peninsula to say that amateur radio is forging ahead there. They have formed the Lower Eyre Peninsula Radio Club, which now has a membership of 33, interested members include Jack VK5JL, VK5FV, VK5ZSA, Greg VK5ZER, Peter VK5ZCT, plus a large number of 6 Novice calls, with numbers in all categories likely to increase in the next 12 months. Peter's QTH is 30m above sea level, but if conditions look good on 2 metres he goes to the top of Winters Hill overlooking Pt. Lincoln, which is 23m a.s.l. and a clear take

off in all directions. Presently equipment only allows repeater operation but is aiming towards two metres SSB later this year.

A condensed version of Peter's operating at peak reception times is as follows: 10-2, 2245 to 2000Z worked VK7ZBY, VK7ZFP and VK7ZTA via Ch. 8. VK7ZBY and VK7ZFP were heard on 10-2, 2210Z worked VK6BG and VK6JH through the Bunbury repeater. Ch. 8BRY 2320Z worked VK6JH on Ch. 8. 6RAW At 2330Z worked the same station on Ch. 40 noise free until 2360Z. On 11-2 at 0730Z worked through Ch. 8 FRAA again from his home. Shifting to Winters Hill at 1025Z worked VK7ZFP Ch. 3 7RWX 1000Z VK7ZGJ and VK6SS via Ch. 8 7RAA. 1105Z VK7RR and VK7ZTA via Ch. 2 7RNT 1105Z VK3BYL near Warrambool S2 on Ch. 40, also VK3AUR at Halla Gps S3 Ch. 40 1200Z VK3YNE via Ch. 4 Bendigo 5 9 3 and 30 dB VK7ZTA VK6TV Bunbury Ch. 6 1300Z VK6ZBI and VK6JH Ch. 8 Wagon repeater 1353Z to 1022Z worked nine VK6s through Ch. 8 Bunbury At 1445Z triggered Ch. 4 which could have been Ch. 4 VK6RAH at Perth.

That shows what can be done if you are keen. And as it appears, all this type of activity is leading Peter into getting on to SSB which could well increase his coverage on the band. Good luck with the project.

WHAT CAN BE DONE TO HELP?

As mentioned at the start of these notes VK6BG at Casey Base in the Antarctic has installed a manned beacon on 52.100 beaming towards Australia. The equipment runs 300 mW output, and no receiver is available, so for the present no contacts can be made other than perhaps crossband. The active VK6s on six metres, and they don't a really number that many, have been discussing the situation and have agreed to do something to ensure possible two-way contacts with Casey Base. It is proposed obtaining a secondhand IC562 which will be the SSB originating source and the receiver, and a PA to provide about 25 to 30 watts of SSB output. David VK5KK has already offered a solid state PA which runs 25 watts out from 12 volts.

It is therefore proposed we make up a unit which is able to be taken anywhere for that matter in the absence of other six metre gear, and used to provide DX contacts. If necessary a 4 element beam would be available with the package in the present condition. It would go to Casey Base, but this cannot be arranged until next October, when first physical contact is possible with Casey due to the long winter there.

In the meantime, it seems to have been generally agreed for the moment, that I (VK5LP) should promote the idea, and invite anyone interested who would like to make a financial or equipment contribution to contact me (phone (08) 589 1204) or at Forrester, SA 5233, stating what they are prepared to contribute, and if the idea reaches fulfilment then we will be quickly asking you to send your donation to the appropriate address. The idea should be of prime importance to VK3, VK5 and VK7, being the nearest to the base, but there are no reasons really why it should be of interest to VK Interact as I cannot see the signals from that area stopping at State borders. October will soon come around, so let us not tarry, let the project get under way now, and you will ensure this if you can help with contributions.

A similar arrangement was undertaken when Steve VK3OT secured HPA was put on the map. We have mentioned an IC562 above, mainly because the whole package could be run off 12 volts, but I guess we would not be looking down in the mouth at an FTV650, etc, but these require more backup equipment and complicates the whole programme.

FROM OTHER SOURCES

The WA VHF Group News Bulletin mentions several items of interest.

First: The Albany Beacon was described upon by VK6KZ, VK6HK, VK6XY and VK6EO and now VK6RTW has a new 5 element beam pointed at Perth, being fed through a directional coupler designed by VK6KZ. The beacon reported a 20 dB signal increase from Kaituma where he was monitoring field strength. Field strength at Ledge Point decreased 3 dB and the beacon was heard in Adelaide after the mod. was done, the beam towards Adelaide is a 6 element and the RF to each beam is 4 watts.

Second: Diego Garcia VK6KK in the Indian Ocean is now on 6 metres. And Russ Z6BLN and Z5EXJ are now operating a 50050 beacon, 80 watts into an 8 element yagi. From 5400 to 7000Z the antenna is beamed to JA from 5700 to 1000Z the beam is pointed at VK. During beacon time there will be a change in the station frequency of 28865 MHz. The May MUF to Northern Australia is expected to go to 48 MHz. For those looking for openings there is a Rhodesian TV station on E2, ie 48.250 MHz.

Third: SBA4Z in Cyprus and Z6BLN in Gibraltar both have 5 metre permits.

Fourth: The bad news. Concern is being expressed about the continuing proliferation of Ch. 5A despite the promises of the Minister for Post and Telecommunications. At Jeemar, on the coast 20 km WSW from Ennabab, there is another Ch. 5A, which is already causing widespread interference to 2 metres. So much for the word of those in authority.

FINALLY

I note with interest a paragraph in "QST" that during March there was a successful two-way contact on six metres between Z6BLN in South Africa and SBA4Z in Cyprus, the latter running 70 W output. That's certainly getting miles per wall!

There's not much to report on 2 metre activity — possibly very few people are on that band at the moment, six metres being all the rage. As the winter months come we should see some more contacts there.

And now the thought for the month 'Opportunity knocks only once, but temptation leans on the doorbell'.

73. The Voice in the Hills.

STOP PRESS

2m FM DX TO JAPAN

On 20th April at 1333Z a husband and wife team VK6VW and VK6EW from Dublin, worked JRB6LZ on 145.16 FM. Signals were 3 x 8 Farway. This could be a new record and a first for a VL to work outside of Australia on VHF. Further details will be published as they come to hand.

YB0K worked VK5KK and VK3OT on 30th April between 0100 and 0200Z. CW and SSB signals exchanged.

61ZW in Dublin has a licence for 50 MHz and is getting on the air.

AWARDS COLUMN

Bill Verrall VK5WV

7 Linc Ave. Finders Park, SA

ENDEAVOUR AWARD

The Royal Naval Amateur Radio Society has great pleasure in announcing a third award called the Endeavour Award for contacting Society Members residing in Australia. The title of the award links the Royal Navy with Australia.

VK RNARS Lists are available from the custodian or the Australian Operator. Or use the general RNARS List from GPHZ-GTHH.

RULES OF THE ENDEAVOUR AWARD

- The name of the award shall be the ENDEAVOUR AWARD, and shall be open to all radio amateurs.
- Applicants must establish two-way amateur communications with RNARS Members residing in Australia. Points shall be awarded on the basis of one point per VK RNARS Member worked per band, after the commencement date of January 1st, 1979. To qualify for the following is required — For amateurs residing inside Australia, 10 points for amateurs residing inside Oceania, 10 points for amateurs residing outside Oceania, 5 points.

n addition for amateurs residing outside Oceania contacts with VK RNARS Members on the 3.5 MHz band will count double points. For the purposes of this award, any RNARS Maritime Mobile Member when located inside Australian waters may be counted as a VK Member.

3 The award will be endorsed ONLY on the request of the applicant and the following endorsements are available "ALL CW", "ALL

SSB", "ALL 3.5 MHz", "ALL 20 MHz", "ALL NOVICE", "FIVE-BY-FIVE". The last endorsement being for gaining at least five points on each of the five high frequency bands.

4. To claim the award, no QSLs are required. However full log details showing the VK Member (or /MM plus QTH) worked, their RNARS number, date, time, frequency, mode, plus an application fee of \$150 Aust. or 7 IRCs are to

be sent to the Endeavour Award Custodian Mr R. Baly VK5MD, 43 HMAS Australia Road, Henley Beach South, SA 5022, Australia. Please ensure all cheques are in Australian currency and made payable to "A Baly". Carry state what endorsements are claimed. Certificates to successful applicants will be forwarded by air-mail as soon as possible after the c.m. has been checked.

JOHN MOYLE MEMORIAL NATIONAL FIELD DAY CONTEST 1979—RESULTS

24 HOUR

Section A: Tx Phone.

50X	3508	4AHO	240
4NPL	1613	4NPN	192
3N2M	1352	8NT	85
4XZ	1122	4NDX	60
4AAR	250	4HLV	60
4AD8	240	4BDS	60
4AAQ	240	4NDW	60

Section B: Tx CW

No entries

Section C: Tx Open.

50R	2079	2BDT	300
3AJQ	1758	2VEO	125
3AKG	1295		

Station D: Tx Phone Multip.

4WIZ	6148	8	4FM	2531	2
6DA	8737	8	4WIT	2157	13
3BGG	5328	5			

Section E: Tx Open Multip.

3ATL	18881	17	1WI	3445	5
2DBK	8455	18	6ZL	3269	7
3APC	7678	19	1RC	3084	2
3ATM	7850	12	1ACA	2941	3
3ATC	6371	8	7NB	2719	9
2WG	5532	9	4WIP	2218	7
2BTZ	4213	8	3AWS	2157	6
3BML	4014	10	2AM	443	2

Section F: Tx VHF.

1ACA	1702	4ZIG	250
3VLD	1445	28UT	232
4ZPG	312	4PV	102

Section G: Home Tx.

3XB	1858	3KS	790
3AEW	825	4AZE	455
7KC	845	3KK	355
1RP	830	7NFR	340

Section H: Rx.

L3042	650	L40018	545
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8 HOUR

Section A: Tx Phone.

8NDY	471	3NEA	323
5H/MZIM	450	3EF	259
3AAW	345	4PJ	150

Section B: Tx CW.

2JM	474	3XU	256
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Section C: Tx Open.

2EL	1038	5ALX	487
3VF	624		

Station D: Tx Phone Multip.

3ATO	2057	16	4OC	960	3
4DA	1086	5	3CAU	712	4

Section E: Tx Open Multip.

3UV	1850	8	4WIN	1556	10
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Section F: Tx VHF.

3AVJ	813	2ZTB	68
3Z.S	558		

Section G: Home Tx.

7BD	855	2BOS	345
P29CG	525	3ZPA	270
5OU	470	1LF	155
4ADC	435	5NLC	100

Check Logs

3XK	3LR	3ACE	BDW	5W-E	4AMA/MM
4ATS	4WR	6WZ			

log presentation was much better than in the '80. Please note carefully in future the date of the postmark required for a valid log

Note third figure in sections D and E represents number of operators.

ADDITIONAL INFORMATION

Aggregate points so far allocated to Individual amateurs towards this trophy are shown, however all points are subject to confirmation of WIA membership. Other nominated contests for this year are the VK/ZL and the RD

ALLOCATED POINTS

16 points 3AU, 4QO, 5QX, 5OR, 3YLD, 3XB, 5NDY, 2JM, 2EL, 3AVJ, 2VEO

9 points 22BD, 4NFU, 4ZPG, 3AEW, 5ZIM/NIM, 3XU, 3VF, 3ZJS, 5OU

8 points 3NZM, 3AYL, 4ZIG, 7KC, 3AAW, 5ALX, 2ZTB, 3AUI

7 points 4XZ, 2BDT, 28UT, 1RP, 3NA, 2BQS

6 points 2YHG, 4ARM, 2VEO, 4PV, 3KS, 3EF.

5 points 4AD8, 4AZE, 4PJ, 1LF

4 points 4AAQ, 3KK, 5NLC

3 points 4AHO, 7NFR

2 points 4NPN

1 point. 8NT

Certificates for the 78 RD, the Ross Hull and the John Moyle were held up by the postal dispute but should now be delivered.



DXCC NOTES

OSESCHOE ISLAND (PRONOUNCED DAY-SAY-CHAY-O)

I hope all you keen DXers caught the operation from this island on 5th, 6th and 7th March. By the time you read these notes we may have ARRL accreditation for this latest addition to the DXCC active countries list making a new total of 320.

The story about Descheco Island is most interesting. This island lies in the Caribbean Sea, between the Dominican Republic and the Commonwealth of Puerto Rico, at latitude 18° 23' north and longitude 67° 29' west and occupies an area of about 1.46 square kilometres. It has no inhabitants, no drinking water and its vegetation is of desert type.

The island is a national wildlife refuge of the USA and is administered by the US Department of Interior, Fish and Wildlife Service. As the island was administered separately from Puerto Rico, it was eligible for accreditation as a separate country for the DXCC listings.

The Northern Californian DX Foundation started to plan a DXpedition to the island using the call sign KP4AM for 6th to 12th September, 1978. This was to be an all band around the clock operation with four transceivers, liners, beams, etc. However this DXpedition was delayed for several reasons including the awaited announcement by the ARRL of the DXCC status of the island and obtaining the required permission from the US Department of the Interior

In the meantime VK4KV and WDDX organised their own DXpedition and proceeded to the island where they operated from 12th to 16th October, 1978, and produced about 8000 QSOs. They spent the days operating on Descheco and the nights about their boat. As a result of this operation the proposed DXpedition by KP4AM was temporarily shelved pending further demand for the island.

QSLs for VK4KV were issued and the ARRL was about to recognise the operation for DXCC when a letter of protest was received at ARRL HQ from the US Department of Interior complaining about illegal entry on Descheco National Wildlife Refuge by ham operators. This was back in late December 1978.

As a result, the ARRL posted a stop signal on accreditation for this operation and the latest unofficial information is that QSLs from VK4KV, Descheco will not be recognised for DXCC.

Accordingly the Northern Californian DX Foundation, in co-operation with the ARRL and the US Department of Interior, proceeded with the previously planned DXpedition and the island was activated under the call sign KP4AM/D in early March. We await official word from the ARRL before adding this new country to the DXCC listings.

SABLE ISLAND

Advice has been received that the operation from Sable Island by VE1MTA during the period August-September 1978 was not legal. Further submissions of VE1MTA cards for Sable credit will be returned uncredited and I await official confirmation from the ARRL before rescinding credits already given for this operation. (Acknowledgement WRN - DXA)

PROPOSED NOVICE AWARD

I have received several suggestions that the WIA should issue an award specifically for Novice operators. I agree that some recognition should be given for achievements by our Novice operators as the WIA awards programme only caters for HF and VHF operators at this time.

Several criteria should be considered when a new award is created, for example—

- 1 The award should be an attractive piece of paper worth while pinning up in the ham shack.
- 2 The rules should provide for a special effort on the part of the operator to qualify for the award but must not be too restrictive as, for example the WIA awards (VHF) award.
- 3 The rules must allow an even chance for Novice operators in all VK call areas to qualify.
- 4 GCR rules to apply as QSL cards and postage are now a major expense for ham operators.
- 5 Separate endorsement for all 5BB or 1 CW.
- 6 The award to be issued to VK Novice operators only. Once you achieve full call status you become ineligible.
- 7 The award must not be too difficult to administer (from the award managers' point of view).
- 8 A nominal fee should accompany all applications as I have received one or two award applications lately that have not contained any donation to the coffers. If I am not very careful I will soon reach the stage where I will have to finance this job on my own.

As a suggestion I think the rules of the WIA/KVCA award as published in the March 1979 AMATEUR RADIO could be suitably amended to provide the basis for a proposed WIA/KVCA (Novice) award. Novice operators would be required to complete the 22 QSOs but would have to work hard to catch a VKD and VK9.

I invite any suggestions or comment before I approach Federal Executive to see if they have any funds available to cover the considerable printing costs that would be involved.

Best 73 and Good Hunting

SIDE BAND ELECTRONICS IMPORTS

P.O. BOX 23, SPRINGWOOD, N.S.W. 2777
WAREHOUSE: 78 CHAPMAN PDE., FAULCONBRIDGE
TELEPHONE (047) 51-1394 A.H. (047) 54-1392

A few words of doubtful wisdom about my recent struggles with TRIO KENWOOD AUSTRALIA. After buying around \$100,000 worth of transceivers and accessories from them in the 6 months between May and November 1978, they were unable to supply me more than a miserable 5 pieces TS-120-V just before CHR STMAS 1978 and no promise but a few more in FEBRUARY 1979. Naturally I objected to that treatment and also because their prices had become equal to what the TS-120-V costs retail in Japan. I decided to import a quantity of TS-120-V sets only directly. As a result I had stock of them when my "friends" in Artarmon had none yet and that must have hurt them, consequently their "warning" in the APRIL 1979 issue.

TRIO KENWOOD JAPAN sell their products under the TRIO brand in Japan and exports the same as KENWOOD units. There is absolutely no difference between a TRIO and a KENWOOD TS-120-V. If Artarmon maintains there is, they simply are not telling the truth. I fully guarantee my TRIO TS-120-V imports myself and fortunately can sell them a lot cheaper than when acquired through the Artarmon Office.

But again, TRIO and KENWOOD are one and the same. My TS-120-V's carry the TRIO KENWOOD CORPORATION tag and come with English manuals. As a rugged individual in this amateur equipment business for 15 years since 1964, I have been accused of importing SWAN YAESU MUSEN under cover, assembled in Hong Kong or salt water damaged by parties who tried to explain why they had to sell dearer than I could — all sour grapes and nothing else. Arie Bles VK2AVA

HY-GAIN ANTENNAS:

12-AVQ 10-15-20M vertical	\$50
18-AVT/WB 10-80M vertical	\$125
TH6-DXX 10-15-20M 6-el yagi	\$300
TH3-MK3 10-15-20M 3-el yagi	\$260
TH3-JR 10-15-20M 3-el yagi	\$175
204-BA 20M 4-el tiger array	\$230
2M 5-el yagi w/balun 6'3" boom	\$25
2M 8-el yagi w/balun 12'5" boom	\$30
11M 5-el yagi 17' boom	\$70
BN-86 balun for beam buyers	\$20
HY-Q (USA) 50-ohm balun	\$15

ROTATORS AND CABLES

All rotators for 28V AC operation—	
KEN KR-400 medium duty	\$125
CDR BT-1A light duty w/push	
button programmable	\$90
CDR ham III heavy duty	\$175
CDR tail twister extra H/duty	\$225
Bottom bracket CDR rotators	\$10
KS-065 stay/thrust bearing	
1 1/4" to 2 1/2" masts	\$25
RG-58U co-ax cable, per yd	30c
RG-8U foam co-ax cable, per yd	80c
8-cond rotator cable, per yd	60c
7/8" H.D. VHF/UHF co-ax, per yd	\$3
CABLE-cutting and packing, per length	\$1.50

ACCESSORIES

Voltage regulator 18V AC input	
12V DC 3A output	\$23
240V 18V AC transformer	\$10
5M RG-58U w/PL-259 one end	\$2.50
Bumper mounts 3/4" 24-thread	\$5
Gutter mounts 3/4" 24-thread	\$3

CO-AX CONNECTORS

PL-259-SO-239 cable joiners, ea	75c
Right angles & T connectors, ea	\$1.50
GLP right angles RG-58U to SO-239	
w/lock nut & weatherproof cap	\$2.50
Double female connectors	80c
In-line mic sockets 3 & 4-pin, ea	75c
Minic sockets 3 and 4 pin, ea	75c
MLS right angle-RG58U to PL-259	90c

KDK KYOKUTO DENSHI model FM-2016A 2 Meter 144 to 149 MHz 1000 channels 15 to 20 Watt FM transceivers with digital read-out, 4-channel memory and scanner, with microphone and mobile bracket, RIT, the lot for only \$360

KENWOOD PRODUCTS

TS-520S 10-160M transceiver	\$875
TS-700 SP 2M all mode trans	\$850
TS-120V 10-80M mobile trans	\$550
TR-7625 25W 2M FM trans	\$480
TL-922 10-160M linear amp.	\$1100
DK-520 adaptor (TS-520)	\$15
LF-30A low pass filter	\$25
TV-502 2M transverter	\$300
AT-200 antenna matchbox	\$175
DS-1A DC/DC converter	\$175
VFO-820 for TS-820S	\$185
VFO-520S for TS-520S	\$160
SP-520 for TS-520S	\$30
YG-3395C CW filter (TS-520S)	\$50
MC-50 desk microphone	\$45
MC-10 hand held microphone	\$20
HC-2 ham clock	\$35
BS-8 pan adaptors	\$65

YAESU-MUSEN PRODUCTS

FT-7 10-80M mobile trans.	\$450
FT-301S 10-160M mobile trans.	\$600
FRG-7 5-30Mhz receiver	\$319

NOVICE SPECIALS — TRANSCEIVERS

10M Sideband SE-502 USB/AM 15W PEP-240V	
AC 12V DC-inbuilt SWR/RF meter 28 3-28 6 mhz-clari- fier tuning transmit and receive	\$125
10M Universe 224-M USB/AM 15W PEP 12V	
DC 24-ch. 28 480 to 28 595 mhz, 5-khz steps-clari- fier tuning transmit and receive	\$100
CONVERSION CRYSTALS for amateur licence holders — set of 8-crystals to convert 23-ch 27-mhz CB units to 28-mhz. Suitable for Kraco, Sideband, Universe, Hy- range V etc., converts as per Universe 10M above — CRYSTALS and instructions	\$40

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ment.

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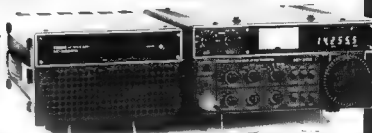
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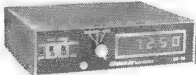
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SP 8 Regulated Power supply 8 Amps
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VFO 820 External VFO for TS-820-S
VFO 700 S External VFO for TS-700-S
SM 220 Station monitor
BS 8 and BS 5 PA's adaptor
SP 820 Deluxe Speaker console
SP 520 Speaker console
SP-70 Speaker console for TS-700 & 600
VOX 3 Vox unit for TS-700 & TS-800
DS 1 A DC converter for TS-520-S & TS-820-S
DG 5 External digital display for TS-520-S
AT 200 Antenna coupler
MC-30 S Microphone 500 OHM
MC 35 S Microphone 50 K OHM
MC 10 Microphone 50 K OHM
MC-50 Deluxe desk Microphone with imp
HC 2 Deluxe Ham clock
YG 68 CW filter for TS 820
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HS 4 Headphone
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12-AVQ 10-15-20M vertical 13 1/2' tall	\$50
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11M 5 el Yag, 17 boom	\$70
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KEN KR 400 rotator medium duty 28V-AC	\$125
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RG 8J Polyfoam Coax	80c per yard
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SKY 80 six feet long 3.5 MHz	\$28
SKY 40 six feet long 7.060	\$26
SKY 20 six feet long 14.150	\$25
SKY 15 six feet long 21.100	\$25
SKY 10 six feet long 28.500	\$24

CRYSTAL FILTER, 9 MHz similar to
FT 200 ones. With carrier crystals

\$39

COAX CABLE CONNECTORS

PL 259
SO 239 Chassis Mount
Male to male joiner
Female to female joiner
Angle connector

Accessories

SWR 50A 3.5 150Mhz SWR meter	\$26
12VDC regulated supply	\$26
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Bumper mount c/w/3/8 24-thread ant mount	\$7
Gutter mount c/w/3/8 24 thread ant mount	\$4.50

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CROWS NEST. PHONE 438 4191.

KENWOOD AMATEUR RADIO EQUIPMENT

MAIL ORDERS: P.O. BOX 184, SUTHERLAND 2232.

PETER SCHULZ, VK2ZXL

Ron Henderson VK1RH
Federal WICEN Co-ordinator,
53 Hannaford St., Page ACT 2614
Ph. (062) 54 2059, A.H

WICEN EMERGENCY PLANS

This issue I wish to continue the WICEN training course theme with some thoughts on WICEN Emergency Plans.

Experience has shown that such a plan, be it for a State, region or area, needs to consider most of the following factors:

- Regions.** Where an area of responsibility is subdivided into regions or areas it is worthwhile including a marked map clearly delineating boundaries.
- Tasks.** The likely WICEN tasks can be expressed in a couple of clear statements, e.g. VHF local coverage or HF links, also mobile and fixed requirements.
- Organisation.** The local organisation showing both higher and lower responsible authorities and liaison should be shown on a line diagram.
- Responsibilities.** The duties of key office-bearers, e.g., co-ordinator, deputy co-ordinator, etc., should be clearly spelt out.
- Activation.** When considering the aspects of activation of an emergency network list the likely reasons for activation, the recognized requesting authorities, i.e. SES, Police, and the need for P. and T. clearance.
- Call-out Procedure.** The call-out procedure follows from the activation considerations. It should include the method of implementation and deployment and include key names and addresses, with telephone numbers, of both likely requesting authorities, WICEN office-bearers and the P. and T., e.g. the DRI.
- Co-operative Authorities.** It is worthwhile listing likely government departments and organizations with whom co-operation could be expected during an emergency.
- Facilities.** This heading covers traffic and relay stations, net monitoring, mobile and portable stations, including vehicle load lists and emergency frequencies.
- Operating Procedures.** A précis of operating procedures, derived from the WICEN "Emergency Service Communications Procedure", or "the little grey book", Civil Defence Communications Part III, 1969, is usefully included for it keeps all information and instructions in the one paper.
- Regulations.** As a closing reminder, the relevant Regulations from the Handbook should be noted. These are: Reg. 84: Secrecy of Communications. Reg. 94: Authorization of Emergency Networks.

Reg. 96: Clearance of emergency frequencies.
Reg. 109: Emergency communications.
I am sure you will find that, after compiling your WICEN Emergency Plan, you will have a better feel for your role and

★ ☆ ★ ★ ☆ ★

In a recent issue of AR I gave an example of how to send a formal message by radio. Here I wish to cover the recording and logging aspects associated with being a WICEN radio station.

EMER
The primary record is the station log; it should contain details of time, station called or calling, and the event or message identity. At an out-station the log is adequate for all recording, as former messages can be logged by their originator's number and date time group (DTG). You will recall from my last article that these uniquely reference any formal message.

OPERATOR'S CHECK SHEET
The Operator's Check Sheet (CDF7) is normally used at control stations, relay stations or multiple net locations to supplement the log for all formal traffic. The check sheet is printed in two parts, an "IN" section and an "OUT" section and should contain sufficient information to record and trace formal messages. The top part of a check sheet, CDF7, is reproduced below.

THE MECHANICS OF MESSAGE HANDLING
The mechanics of message handling follow the following sequence:

Acceptance of messages —
scan for completeness,

will be able to approach it with confidence. And that embraces one of the key phrases in the WICEN mission, namely, "... a pool of trained licensed operators, with equipment, available for deployment."

note a local sequence No. and receipt time in the top shaded area, add DTG if necessary, check "from" and "to", check "less" or "more" name/authority place in sending queue in priority order

Sending messages —
log to reference message uniquely, either in log book or operator's check sheet I used, complete D shaded box at foot of message form,
file safely

Receiving messages —
log as for sending, complete R shaded box at foot of message form
keep a duplicate file copy if directed.

Delivery of messages —
deliver to action (and info) addressees by runner or hand

Note that the present if any arrangements concerning emergency networks introduced by P & T, require you to keep a complete log and to retain messages for 12 months

R G Henderson
Federal WICEN Co-ordinator

CIVIL DEFENCE														CDF 7						
OPERATOR'S CHECK SHEET														DATE		CALL OUT				
IN MESSAGES														SHEET NO.						
No.	Date/Time	From	To	Subject	No.	Date/Time	From	To	Subject	No.	Date/Time	From	To	Subject	No.	Date/Time	From	To	Subject	
1					1					2					3					

Layout of operator's check sheet (form CDF7)

WICEN ACTIVITIES IN VICTORIAN EASTERN ZONE

It seems that our activities in Amateur Communications are being increasingly noticed.

Many Amateur operators set active with State Emergency Service (SES) groups — passing on "know how" to non-technical operators and joining the various SES local groups. This results in police and other organisations becoming more familiar with our communication potential.

This Zone, upon request, had two worthwhile exercises during March 1979.

During the times of 1900 hrs March 10 through to 1900 hrs March 11, a sizeable team helped with communications for the Marley Point Overnight Yacht Race.

This event had over 600 yachts participating starting at the top of Lake Wellington, sailing through the night across the lake, through McAnans Straits, into Lake Victoria, and on to finish at Painesville.

The WICEN involvement was to pass messages from starting point to finish point and between two intermediate check points. These messages were for the Gippsland Lakes Safety Council and St. John Ambulance Brigade.

Mostly the comms were on 146 MHz and 3,500 kHz. Two metre transceivers, with operators, were on two St John Ambulance motor boats, and one Safety Council patrol boat.

We also monitored messages on the Safety Council frequencies used by most of the yachts. Ian Foster VK3ST, on his launch "Leistica", with 80 and 2 metre marine mobile at the finish line, and he organised a land station at the same point. Land stations were powered by batteries and portable motor alternators. Zone members supported this exercise very well, and all enjoyed the experience even though we worked through the night without sleep. Several Novice operators were introduced to portable operations, and we left most of the message handling to them.

Three weeks later the Yacht Club invited us all to an excellent free barbecue at the Club House, where we were thanked and complimented by the Yacht Club, Safety Council and St John Ambulance Division for a commitment on job well done.

Then on March 17 and 18 we were involved with the "Academus" Car Rally covering some 200 miles through East Gipps and back roads and tracks. Our job was to pass messages relevant to the safe conduct of this event and to pass car numbers from check points to the next one ahead. Operators worked through the night under portable conditions at marked points in Sale, Dwyer Knob, Brother South Brother and Wargara. We were officially thanked for a job well done and all operators concerned enjoyed and valued the experience.

Many operators took part in these events as but are too numerous to mention here. Our thanks to all concerned.

Brian VK3BBB relayed messages between aircraft and ground in connection with the WICEN comms with the recent Power Boat Race from St. Kilde to Lakes Entrance.

From Keith V Scott VK3SS, Zone Co-ordinator

Are you checking
our bands for
INTRUDERS

AND REPORTING SAME TO
THE INTRUDER WATCH
CO-ORDINATOR?

MAGAZINE INDEX

Syd Clark, VK3ASC

RADIO 25 September 1978

The Mon-Jay Vacation Antenna, The Sounds of History

RADIO 26 October 1978

When Radio Was Fun, The Unseen Eye, A Short History of Aircraft Radio

RADIO COMMUNICATION December 1978

Heatsinks, Quartz 16, 144 MHz FM Transceiver (Review), Anti-TVI Filters, Circuit Design with NAND AND NOR, New Region 1 IARU Operating Standards, Transcontinental DX Contacts on 144 MHz, Field Reports of Silhouette Study of the Lower Troposphere Over Southern England, Radio Communications and the ITJ

RADIO COMMUNICATION January 1979

A 7 MHz Vertical Antenna, Preliminary Results of Six-Year Study, Pt. 2; HF Propagation Predictions Supplement, The 1978 AGM General Rules for VHF/UHF HF Contests 1979; RSGB HF Contest 1979/HF RX Contests 1979; Code of Practice for VHF/UHF Contest Operation, Code Letters for Use in RSGB Contests

SHORTWAVE October 1978

Amateur Radio Communication or Technology, or Both, Pt. 6 Multi-Mode with the NR-55 FM Monitor Receiver, From Stonorow on Forty Metres

73 June 1978

Happiness is Being a Ham Manufacturer, Extended Double Zapp, New Dipole a Feeder; The Cliff-Dweller's De-gh Wall Tilt You Try 16 Elements; Working 15m with a 20m Beam, A Better Feedthrough for Cables, Resuscitating the Beverage Antenna, How to Hang a Longwire, The "Garden" Quad, Mobile in Disguise, Better than a Quad, The Parvized Double Vee Antenna, Creeping Crud Got Your Signs Towering Low Band Antennas, The 80 Metre Pie Crusher Phased Verticals for Easy DX, Modernising the Matchbox, The Miserly Magnetic Antenna, The 75 cm DX Choke, The Inevitable I-Band Antenna, Who Says Verticals Don't Work! Low Cost Keyboard—II, Computerized Loop Antenna Design, Hey! Wait for Me, Morrow's Marvelous Monitor, Enjoy All Bands with a Remote Tuner; New Use for CB Antennas, Confessions of a Vertical Fanatic, Novice Guide to Phase Antennas, The C Element Brown Bomber, The "Towerless" Tower, The Two-Hour Two Metre Beam, Now Try 1290 MHz, The OSCAR Booperc, Cuscuta! Does It Again: The S-Meter Bender, Amazingly Simple Low Period Antenna Disguised Birdhouse Vertical

73 November 1978

Electric Sculpture, The Summe Meeting, The UART Qor Shier Silence Grounding Refrigerators, Bargain Pre-amp, Murphy's Masterpiece, How About Some Ham Shack Safety, Head 'Em Off at the (High) Pass, 555 Basics, and More Educate Yourself Notes, RTTY Autotune, The Eastern Office, Ever, The Chip Switch, Automatic Repeater Offsets, CB to 10—The Lafayette Teletest SSB-75, The History of Ham Radio Build on FM Tweaker; Another Surprise Treasure, PHH—Zapped Again, One Meter—Many Jobs MOS What Is It?, FM Calibration on a Budget, Build the S80 Wonder, Add—A Scanner, CB to 10, A Realistic PLL Rg, No More Excuses, The Junk Box Station, RX Bridge & Calculator—VSWR, High Seas Adventure—Ham Style, Look What Followed Me Home, A Hex on Your 8223 The Micro Maestro, SSTV Meets SWTPC Pt. 1, Squeezing Cheap Receivers, Try FM on 28.5 MHz, Build the Brute, The Multi-Function Scan Can Be a Weather Genie, Happiness is a DMM Kit, Vintage Receiver Mods, Deep, Dark Secrets of the TR-7500, The TIL Life-Saver, Build the "Version Three", Heath's GR-58 Gets Religion, Four Terminals Are Better Than

Three, CB to 10: A Realistic Mr. The Circuit Board Aquarium, Build a Decent Dummy, Who Needs Transistors, Blockbuster RTTY Articles, Automatic Autotune; Using Bargain Muffin Fans, Loran-G as a Frequency Standard, Ham Help, An Experimenter's Delight

73 December 1978

A DXer's Dream Vacation; Count Encounters, The Schizophrenic Triangle; From CW to Computers, A 28c Touchtone Mod; Space Age Surplus, An X-Band Transceiver, SSTV Record-Controller; Receiver Diseases, Autophasing the WFEAX; The Lunch Counter, Confessions of a Stripper, Toned Feeders and Other Good Stuff; Build a Realistic S-Meter, Wow! A Good Portable Receiver, The Xlax Vides Terminal, Light Up Your Life, High Seas Adventure—Ham Style, Whither Microprocessors, SSTV Meets SWTPC, Pt. 2, A Multi-Media Morse Machine, This Is Your Computer Speaking, RTTY with the KIM, DX Delight, Big Max Attacks, The Packet Radio Revolution, This Voltage Standard Is Precise, The 223 Goes Digital, WARC 79 Preview, The "Film-Fin" Factor, Build the Field-Filler, The Classic Kilowatt, Ham Radio Goes to School, What's Your YF; Fail-Safe, Code Practice Oscillators, Pcs Are Easy; The Games People Play; An Improved HV Tube Socket

CG October 1978

Inside KZGVW—The Amateur and His Pacemaker, An Optimum Speech Filter, Results of 19th Annual AQ 160 Metre DX Contest; Converting the Radio Shack Crossbox III CB Pre-amp for 10 and 15 Metre Use; The National NC-101X—A Receiver that Changed Amateur Radio; GC4DA—Guernsey Island, CG Reviews, The Fletcher Corp TU 170 RTTY Terminal Unit, CG Reviews, The Electronic Research Model SL-55 Active Audio Filter, Rules for the 30th Annual 1978 CG WW DX Contest; A GRPF Transceiver, RF Modulator, Processor Module in the Kenwood S-820; A Look at the K3WV Antenna Farm, Amateur Radio Grounding, Pt. 2, Contest Calendar for October and Early November

CG December 1978

Amateur Radio Has Lost a Good Friend—Lawrence W. Le Keshman W2AB, 1920-1978, A CW Low Power Transceiver, 100 Metres; A Four-digit One-IC Voltmeter—Almost, Chasing the Ultimate DX from Arebico, Puerto Rico; Antennas 10, 15 and 40 Mx, The Ins and Outs of the Washington Scene; Sources of Aid for Prospective Amateurs; The EABCR Multi-Multi Contest Story, Results of the 1978 CG WW WFX SSB Contest

CG January 1979

All About Kix, Pt. 1, Should I Build or Shouldn't I Build: Solid State Tailored R/C Substitution; A Novel Beam Direction Indicator, What GSI Cards Are and How to Use Them, The K8E80 Story: An Ultra-Smooth Ball Bearing Keyer Peddle, Sipping Up the Super Pie Receiver, Automatically Controlling Charge Current for NiCAD Batteries, Sunspots and Unusual Antennas: Solar Cycle Update The Early Years; All the Power to the Load, Why Not Solar Power, An Inexpensive Method for Expanding Frequency Coverage, A Pipe Organ Multi-Band Vertical Antenna, The CG Analysis of a Transistor Amplifier, The Monster Quad, An Interface Concept for the Emergency Broadcast System and the Amateur Radio Service, Announcing the 23rd Annual CG WW WFX Contest

HAM RADIO November 1978

Mosfet Power Amplifier, Digital Synthesizer; Printed Circuit Layout Techniques, Monolithic Crystal Filters, 40 Metre Beam, Modder Improvements, Multiple Charge Mode Matching Transmitters, Phase-Locked 9 MHz BFO, Mobile Antenna Magnet Mount, Digital Repeat/ID for RTTY, Tone Decoder, Antenna SWR Meter, IC Tester Using the KIM-1 Microprocessor, Simplified Capacitance Meter, Improvements for the Measurements 58 Grid Dipper

HAM RADIO December 1978

High-Frequency Transmitter Lightning Protection, Solar-Powered Receiver, Universal Digital Readout, Oscar Calculator, Simple Video Display, Collins 325-1 Improvements; Top-Loaded Delta Loop, Updated Vacuum-Tube Receiver, 1296 MHz Double Stub Tuner, 15 GHz Prescaler

HAM RADIO January 1979

Two-Metre Synthesizer, Measuring FM Deviation 10 GHz Gammaray Transceiver, Fast and Quiet Transmitter/Receiver Relay, Adjustable 5-Ampere Power Supply, Ham-III Digital Readout, Amozing Aluminum, CMOS Keyer, Digital Techniques Basic Rules and Gates

RADIO COMMUNICATION February 1979

Ladder Crystal Filter Design, Power Transformers with Low Voltage Secondaries, A Ruffy MSF Time Code Clock, Band Planning, 145.8 to 146 MHz

RADIO 26 November 1978

The Ripper Type 2, Forgotten Discoveries, IARU Region One Conference (Hungary—1978); The HB9CV 2-Metre Beam

RADIO 26 December 1978

The UASJAR Switch-Selectable Quad, Amigos de los Americas

SHORTWAVE November 1978

Antennas—The Weak Link, Pt. 6, A Useful 45 MHz Crystal Oscillator

73 October 1978

DXpeditioning: VHF On Your Frequency Counter; The KMICC Story, Good News: Mighty Mode for the 8205, Improving Health's Net: Total Control; Oddball Spills and the C-285; The History of Ham Radio, Pt. 6; Re-using Coax Connectors; Building from Magazine Articles Super S-Mile TII Generator; Microstrip, Low-Pass Filter Primer, Hello Handoms: More Coming of Age, Re-represent a Pawnee; High Seas Adventure—Ham Style Build a Better Beeper; DMM Buyer's Guide, TIPS Threat: The Ultimate T-Hunt Two Metre HT Survey, Interrupts Made Easy, Use Computers? Who Must the Bird Watching in BASIC Land Computers and the Real World, World's Cheapish Q&A: The Long-Term Effects of Working with Us; The Lady Said Red; The Frugal Alternative, P.L. Techniques Build a TTY Tester; It's a Ham's World, Attention Weather Watchers, Interchangeable East Leads Happiness Is a Smart Scanner; Tweak Your Linear, CB to 10, Tune Up, Clusters in Your Junk Box, Support Your Local Fire Chief, Improved Scanner for the VHF; One Plus: A Perfect Power Supply, Mobile Security Blanket; Further Adventures of the IC-225; Antenna Design: Something New, Build an Audible Transistor Tester

73 January 1979

The Italian Freq Generator Happiness is a WE-800, Explore the World of VLF; The SHAFT, A Remotely Tuned Matchbox D Does of the Dead, Building an Economy Receiver; The ST-5 Plus Build a 510 Digital Thermometer; CB to 10 Try a Little KISS, Autotune II, The Twister, Adam-12 Revisited, Digital RTTY Is Simple; Take the Pledge, Build a 100 Watt CW Transmitter, The Security A System, Design-A-Nocher, The COSMAC Connection, Pt. 1; Noise Budge BASICS The Morse Master; The Mini-MOUSE Key, One Step Further: Murray for LF Filters; The Soft Touch Keyer, 80S Ship in Charge, Microcomputers, Are Your Op Amps On par? CB to 10; Electronics Education by Mail Order, Time-Domain Reflectometry: High Seas Adventure Ham Style

S.E. QUEENSLAND TELETYPE GROUP

SE QUEENSLAND TELETYPE GROUP

The aims of the group include promotion of the use of the RTTY mode and education of amateurs in RTTY techniques. Towards these aims the group is organizing technical lectures for each of its monthly meetings and producing a series of circuit and other technical information for distribution to club members.

The group transmits a weekly teletype news broadcast under group members' call signs on Monday nights at 0900Z on 146.8 MHz (CW 52) and on 2540 kHz. A phone call-back is conducted after each news broadcast.

At the first meeting on 2 February 1979, the following officers were elected: President Doug Hunter

VK4ADC Vice-President, Brian Beamish VK4AHD, Secretary David Barnbaum VK4ADQ, Treasurer Brian Rickaby VK4RX, Technical Advisor, Roy O'Malley VK4ZQ. The group has recently gained affiliation with the Wireless Institute Queensland Division.

The group meets on the first Friday of each month at the Holland Park State High School, Beaupre Road, Holland Park, Brisbane, at 8 p.m. Enquiries regarding the group may be directed to P.O. Box 274, Sunnybank 4108, or after hours telephone (07) 399 5368.

Yours faithfully,
D Barnbaum VK4ADQ, Secretary SEQTG.

LETTERS TO THE EDITOR

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publisher.

68 Elmetta Street,
Braddon, ACT 2901.

The Editor
Dear Sir,

I refer to the letter from Edw R. Rooms published in your March issue or, more specifically, to that gentleman's signature block.

I accept that his degree, his call sign and his being a dealer for Atlas Radio are all relevant to the subject matter of a letter, but what has his being a Yeastman got to do with it!

As I believe I am well known in the amateur radio fraternity I do not append the post-nominal letters to which I am entitled, but simply sign myself

Yours faithfully
Jim Lloyd VK1CQR
Yachtman, Photographer, Winemaker, Beekeeper,
etc.

43 Barrett Street,
Gympie, Qld.
20-3-79

The Editor
Dear Sir,

I wish to thank those amateurs who so generously answered my plea for information on the Galasso TR22 TC.

I received five (5) replies two of which included photostatic copies of the circuit and information, and one technical bulletin from Geaso (Italy) for my personal return.

Many thanks.
Yours sincerely,
Barrie Bestmann VK4LN

The Editor
Dear Sir,

It is most fortunate that Mr Rex Black VK2YA is not typical of the full-call amateurs I have had the pleasure to be associated with. His holier-than-thou narrow minded attitude towards any new movement to what he obviously considers to be his medium of communication cannot be tolerated by any person thinking amateur novice or full-call alike.

Members of the Woolley Bum Charter are worldwide and I for one know the dedication which went into the Novice class instruction organised by its members.

To refer to its members as 'drops of CB' and possessors of 'an air pot of ice' is childish in the extreme and I for one know the dedication which went into the Novice class instruction organised by its members.

Yours in appreciation,
Dev D Timson VK3NZW WB2B
33 David Street, Knoxfield, 3180, Vic.

21 Bowelles Street, Camp Hill,
Brisbane, Q 4152
5th April 1979

The Editor,
Dear Sir,

For general information. The ARRL (DXCC Section) has issued the following definition of a QSL card which is acceptable for DXCC credit:

"A valid contact, no matter how it is established, is a contact between two identifying stations who have established two way communication with each other. Regulations require that you identify the station you are working, as well as your own."

Please note that there is no mention of signal strength reports! As long as the card shows the call sign, date and confirms that a two way QSO was held, it will be accepted.

Therefore, the commonly held belief that a card must show a report of at least 3 x 3 (for 339) does not appear to be true!

Yours truly,
Frod Lubach, VK4 Doves QSL Officer

15-4-79

The Editor,
Dear Sir,

I noted with interest in April edition of Amateur Radio that someone is using M. O. Kellas VK3AHK's call sign I wish to say that some of the Geelong hams are also having their calls used by "pirates", the main ones being VK3BY, VK3AGN, VK3APO, and my own, VK3ALG. This has been going on for at least four years. I just wonder how many other hams in Australia are having their call used also. I myself have been very active for 31 years. I have notified the Department of such practices.

F. A. Freeman VK3ALG.

3 Gardenia Street,
Pakenham 3810
16th April, 1979

The Editor,
Dear Sir,

As I am not yet a member of the WIA, it is only through the courtesy of a friend that I have just read the February issue of Amateur Radio. Two of the letters absolutely amazed me. Firstly, I am surprised that you saw fit to publish the letter on page 39 signed '7' VK3N. ... as surely anyone making such allegations against David Ramsbottom, or indeed any other person, should have the intellectual fortitude to put his name to them.

As to the letter from Rex Black VK2YA, his libellous attack on the Woolley Bum Club is unjustified and as a licensed amateur, licensed CB operator and a holder of the WIA Club Certificate No. 35, I resent the accusations and implications of the letter.

The generalizations and assumptions in his letter could only have been made by one totally unaware of the situation. The Club's award certificate can only be gained in one of two ways, firstly by qualifying as an amateur through one of the courses run by the Club, as I did, or secondly, by earning sufficient points by contacting by radio other members. It is therefore no more an attempt to take over the band than is the issue of, for example, a DXCC award, or a JARL award or membership of the Mopoke Club, etc., etc. To suggest that the Club is "determined to inject the sub-standard mental processes of the drops of the CB movement" is offensive in the extreme to me, and I expect, probably fully, an open apology from Mr Black.

I have nothing but the highest praise for the care and diligence of the Club's radio course instructor who helped me and many others to qualify for a license. Hardly the sort of behaviour one would expect from a group "determined, etc."

As Mr Black so vehemently asserts.
It is unfortunate that Mr Black does not appreciate the Club's humour either. Possibly I may not agree with his type either, but I'm not going to make such a noise about it. I thought the true interpretation came from the Editor in a recent article on the Club, which was virtually along the lines of "To each his own, but after all it's a free world".

When it's all said and done, nobody has to join the Club or obtain a certificate unless they want to, or unless they have been given the opportunity to do so.

Or is that the trouble, hasn't Mr Black been asked?

Yours faithfully,
D E Jackson VK3VAA, VBB 470, WB 35.

Editor's Note: So that you may obtain your own library of ARs and partake in the many other benefits of WIA membership, I have forwarded an application for membership to you under separate cover (VK3UV).

TECHNICAL CORRESPONDENCE

The Editor,
Dear Sir,

Ref made to the FT101 in AR November, 1978.

On page 11 there is a mistake and also the info on changes to the 101-B and E. It should read —

Locate the transistor Q2 in the 101 Mk. 1 and its bias resistors R5 4K7, and R6 22K Q1 in the 101-B and E, and its bias resistors R1 4K7 and R2 22K.

I found this out the hard way!
Regards,
L. Martin VK2IL.

The Editor,
Dear Sir,

Because of the large variations in the "standards" adopted for calibration of receiver signal strength (S) meters the value of a signal strength report in assessment of the performance of an amateur station's equipment and aerial system is questionable.

The attached copy taken from December 1979 "Radio Communication" appears to be a move towards standardisation of calibration and as such should, I believe, be encouraged. Please you would consider its publication and recommend its use.

Yours faithfully,
G E Wencke VK6WX

INTERNATIONAL NEWS

"S-METER" STANDARDS

In order to make a uniform reporting system on the amateur bands possible, taking into account the widespread use of the subjective 'S'-system, and the large deviations between the characteristics of S-meters on current amateur equipment, IARL Region 1 recommends the use of the 'S'-system for signal strength reporting on the amateur bands based on the following standards:

- One S-point shall correspond to a level difference of 6 dB
- On the bands below 30 MHz a meter reading of 59 shall correspond to an available power of a CW signal generator connected to the receiver input terminals — 73 dBm.
- On the bands above 30 MHz this power shall be 93 dBm.
- The metering system shall be based on quasi-peak detection with an attenuation time constant of 10 ms \pm 20 ms and a decay time constant of at least 500 ms.

COMMENTS

- Signal reporting on the amateur bands at the moment is based on the well-known subjective 'RST' system. Although the system is 'very useful' the availability of modern, computer-processed, or analog, receiving equipment, makes the use of a less subjective system for the measurement of the strength of the received signal possible. The system to be chosen, however, must not deviate too much from the 'subjective' system.
- The first, and most important, standard to be recommended will be the definition of the S-point. A value of 6 dB seems very practical. It corresponds to an already widespread 'un-

office standard and give, at the least, problems for non-mathematically-oriented amateurs.

- Once having agreed upon the value of one S-point, a second, less important, but very useful recommendation is the definition of a reference level.

Taking into account the practical situation it is not possible to define one reference level for all amateur bands. On the HF bands a level of -73 dBm (50 μ V over 50 Ω) does not deviate too much from current practice. On the higher bands however, where thermal noise is the limiting factor in many cases, a lower level must be chosen and 43 dBm (5 μ V over 50 Ω) seems appropriate.

STANDARD TABLE

S	HF bands dBm (V over 50 Ω)	Bands above 30 MHz dBm (V over 50 Ω)
9 + 40 dB	-33 (5 mV)	-53 (500 μ V)
+ 30 dB	-43 (1.6 mV)	-53 (160 μ V)
+ 20 dB	-53 (300 μ V)	-73 (50 μ V)
+ 10 dB	-63 (160 μ V)	-83 (16 μ V)
9	-73 (50 μ V)	-93 (5 μ V)
8	-79 (25 μ V)	-99 (2.5 μ V)
7	-85 (12.5 μ V)	-105 (1.25 μ V)
6	-91 (6.3 μ V)	-111 (0.63 μ V)
5	-97 (3.2 μ V)	-117 (0.32 μ V)
4	-103 (1.6 μ V)	-123 (0.16 μ V)
3	-109 (0.8 μ V)	-129 (0.08 μ V)
2	-115 (0.4 μ V)	-135 (0.04 μ V)
1	-121 (0.2 μ V)	-141 (0.02 μ V)

- Although the standards given above are based on continuous signals, in real traffic non-continuous signals (i.e. A3) will be encountered. It is necessary therefore, to define the measurement system in more detail.

In many cases the S-meter is coupled to the AGC system of the receiver. Therefore a quasi-peak detector will be taken as the standard with an attack time constant of 10 ms and, although of less importance, the decay time constant shall be more than 500 ms.

- It is hoped that the recommendation will be followed by all equipment manufacturers, so that in the not too distant future one will know how to interpret the strength report of the other station.

Societies should advise their members about equipment manufacturers adhering to this recommendation and try to avoid publication of receiver designs which do not, in principle, use the recommended standards. Simple means for calibration of at least the 6 dB level ratio should be published."

WANTED

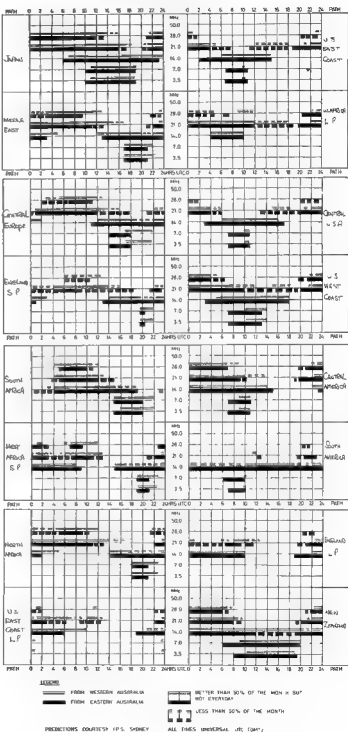
The Project ASERT Committee of the WIA is anxious to obtain a number of Rustak miniature recorders, preferably having a range 0-1 mA and a chart speed of 5 cm/hour.

If any member or other person reading this advertisement is prepared to donate or sell a recorder of this type, the ASERT Committee would be most grateful.

Please have a look in your junk box and see what you can find; then either write to Box 150, Toorak, Vic. 3142, or telephone Les Janes (03) 338 9284 A.H.

IONOSPHERIC PREDICTIONS

Lan Poynter VK3ZGP/NAC



Technical Articles Always Needed

IPS update for June is delayed due to mail strike — this is the chart for May for information only.

MEET THE VK2 DIVISIONAL COUNCIL

Photo taken at WI Centre on the night of the 1979 Annual General Meeting.
From l. to r.: Tim Mills VK2ZTN (Sec.), Ian Mackenzie VK2ZIM (Vice-Pres.), Stephen Pail

VK2VHP, Eric Van Der Weyer VK2ZUR, Fred Parker VK2WFF, (Pres.), Phil Card VK2ZBK (Vice-Pres.), Henry Lundell VK2ZHE.

(Photo by Ken James VK2NWX.)



20 YEARS AGO

Ron Fiaher, VK3OM

JUNE 1959

The situation in June 1959 was much as it is today. The Editorial page puts it in a nut shell: To Geneva — What then? Sounds familiar. In fact most of the June issue was taken up with reports on the forthcoming Geneva conference and also the proposals released by the Post Master-General that we would have to face cuts in many of our popular bands. The proposed cuts were: 80 metres, down 100 kHz to 3.7 MHz; 40 metres, down 50 kHz to 7.1 MHz; 20 metres, down 100 kHz to 14.25 MHz; 16 metres, unchanged; 11 and 16 metres cut from 56 to 60 MHz, down to 56 to 58 MHz and an interesting one on the two metre band, a change from 144/148 to 146/150 MHz.

On the basis of a talk given by the Federal Executive sent urgent telegrams to the then Prime Minister, The Rt. Hon. J. McEwan and other members of parliament. This apparently hit the right spot and a great deal of discussion followed in The House, most of which was reported in the June issue of Amateur Radio.

Supporters at the time included Senator Hannan, Mr. (later Sir) A. Fairhall VK2KB and Mr. J. Fraser, Member for the ACT.

A transcript of a talk given by Mr. A. Fairhall via VK2AWX on all HF amateur bands was printed in full.

As you can imagine, this left very little room for technical articles, but a description of a two stage transmitter for 7 MHz was included. Alan Smith VK3AN showed how to build it but omitted to say what the power output was; perhaps too low to measure.

What the second edition of the ARRL Single Sideband Handbook had just been published. A review commented on this.

An advertisement from R. M. Cunningham Pty. Ltd. announced the arrival of the Galileo Q222 transmitter and the matching 200R receiver at about \$600 the pair. Perhaps we shouldn't complain about the price of amateur gear these days.

QSP

NBS RADIO STATION WWV

Effective December 1, 1978, WWV resumed its previous transmission on 20 MHz. This transmission has been reinstated because of improved propagation conditions on the 20 MHz frequency and will continue as long as propagation conditions warrant.

HAMADS

- Eight lines free to all WIA members.
- \$8 per 3 cm for non-members.
- Copy in typescript please or in block letters to P.O. Box 159, Torok, Vic. 3142.
- Repeats may be charged at full rates.
- Closing date: 1st day of the month preceding publication. Cancellations received after about 12th of the month cannot be processed.
- QTHR means the advertiser's name and address are correct in the current WIA Radio Amateurs Call Book.

FOR SALE

Yaesu FL2100B Linear, 10-80m, 400W PEP output, 1 year old, little use, mint, with manual, \$450; **Cushcraft 2m ringo** with instructions, \$30; **Hallcrafters FPM-300 SSB/CW Tcvr**, 10-30m, 250W DC input, AC-DC, solid state, tube final USA made, with manual, new spare finals, milk deluxe mobile bracket USA made, mint cond., with manual, urgent sale, \$450; **QNC; Drake TR4C**, SSB Tcvr, RV4C, AC4, M54, MN4 mike, manual, mint, \$975 firm; **John Berry**, 40 Grosvenor Street, Woolfathra, NSW 2025. Ph. (02) 389 6455 Bus.

Telefunken Rx E127KW/4 for 1.5 to 30 MHz on 5 bands, plus 6 switched alt chs., A1-A3, AGC on-off, RFO, S-meter, variable bandwidth 0.1 to 3 kHz, alt circuitry and cabinet near original condition, also separate connected dual-path antenna diversity unit (with electronic switching), 17 transistors, 6 diodes, handbooks, only \$120 pair, or will separate. **VK2KR**, Ph. (02) 449 4524.

Kyokuto Synth 2m Transceiver, in box with manual, \$325; **Katsund MC22S** speech compressor, \$40; **SP400** speaker box, \$35; **Oskar** block 200 power meter, \$45. **VK2ZHF**, QTHR. Ph. (02) 631 1269.

Comm. Rx Yaesu FRG-7 0.5 to 30 MHz, continuous coverage Rx, latest model, w/line tuning, as new cond., \$280, QNC. Ph. (03) 91 4341.

Four 8873 Conduction Cooled Tx Valves with two Beryllium heat sinks, sockets and screen grids, brand new, never used, \$250 the lot. **Doug McArthur VK3UM**, QTHR. Ph. (03) 609 1511 Bus.

Comm. Rx, RS228, 20 Bands, 1 MHz wide, 1.5 to 30.5 MHz, v.g.c., with matching RITTY demodulator, \$270 the pair; **Cresed 7B** teleprinter with 50 and 45 BWD governors, sound proof wooden cabinet, \$55; metal cabinet, \$50, v.g.c.; white laminex enclosed cabinet on casters, suits Siemens model 100 teleprinter, \$30, extremely quiet TTY operation; model 15 teleprinter, v.g.c., \$75; and model 14 typing reper, v.g.c., \$45; **RITTY** demodulator, valve type, covers all shifts, v.g.c., \$35. **VK3ACB**, QTHR. Ph. (03) 337 4902.

FRG7 High Perf. Triple Conv. Comm. Rx, all bands 0.5 to 29.9 MHz, continuous coverage, drift free Wadly loop system gives excellent stability, as new, only \$300; **Realistic SX190** comm. Rx, a little beat on 80-40-20m ham bands and eight SW bands, covered in 500 kHz dial segments, plus in two more xils for two extra bands of your choice, with ext. speaker and manual, a bargain at only \$120. **Wright VK2BZ**, QTHR.

FT75 Transceiver with AC power supply and DC power supply, with 8 xils 3.685, 7.008, 7.085, 7.087, 14.150, 14.200, 21.400, 28.550 and VFO, plus mobile cradle, \$350, QNC; **PF7203** 1m mobile with AC xils, channel 40, 50, 1 and 4 \$250, QNC; power supply for 2m rig, \$50. **Grag Whyler**, Ph. (03) 873 3939.

YB5205, modified for Novice use, plus DC supply, \$600; **FRG-7 Rx**, \$200; **Home 10/15m 4 al**, each yagi with KR400 rotor, \$200; **home** brew tower, 2 sections, 40 ft. total with winch, \$160; **500W** ATU, \$100. **Jeff Boyd VK3NJS**, Ph. (02) 391 7519 A.H.

KLM 140W 2m Class B Linear, two RCA 576B valves, suit linear for 2m, three 810 valves, incl. jumbo sockets, three 572B/7160L valves, all used but in good cond., three 2039 valves, 4CX205B single ended 2m amplifier, tube, socket, mechanics and tuned line only, offers on any or all; first reasonable offer on any item will be accepted. **Ian Foster VK3ST**, Ph. (051) 52 8311.

Photocopying Machine, "Aronlight", complete with developer, will take copies up to a full 32 in. width, \$100, plus freight. **Ian Foster VK3ST**, Ph. (051) 52 8311.

TS520 Transceiver (Kawwood), \$550; also **MB4CA** Swan transceiver, solid state, ideal mobile/portable/home station, for 40m, \$275. Ph. (02) 709 7242.

Communc. Rx AX-150 Amateur band double conversion superhet, covers 80, 40, 20, 15 and all of 10m, complete with matching speakers, \$190. **VK2ZIO**, QTHR. Ph. (02) 872 1334.

FT620, titled xils for 50 to 54 MHz operation, with 4 el. yagi, coax, etc., \$350; near complete collection of AR, 1949 to date, \$40. **VK5GU**, Ph. (08) 223 2296 A.H.

Hallcrafters SX28, 550 kHz, 34 MHz Rx, incl. full manuals, \$350, QNC. **Allen Crewther VK3SM**, QTHR. Ph. (03) 386 4402 A.H., (03) 620 5794 Bus.

Teletype Model 15, good working order, plus spare paper, \$70; **MTR 13** 2m rig, 5 el. convention, with xils, \$35; **Old Phillips** crow, \$10. **VK3SU**, QTHR. Ph. (059) 44 3552.

Yaesu FDX 401 Tcvr, last model with CW filter and AM, as new cond., \$500. **VK4JL**, QTHR. Ph. (07) 356 2610.

Yaesu FRG77 Communc. Rx, mint cond., \$250. **Ph. Bill VK3VDW** (059) 75 4067 A.H.

Yaesu FL2100 Linear Amplifier, unmarked cond., \$480. **VK4AGL**, QTHR. Ph. (071) 41 2315.

Unmodified FT200 with full 10m coverage, 240V AC power supply, and DC-DC power supply for FT200, also full set valves, \$520, ONO the lot. Trevor Barlett VK5NTB, 143 Murray St., Nurtoots 5365.

Icom IC22A 2m FM Transceiver, repeaters 2 (also reverse), 3, 4, 5, 6, 7, 8, Simplex 37, 40, 50, 53, with original packing and cradle, B12-12 final in very good cond., \$175; KRACQ 204 23 ch AM/SSB, single conversion to 10m, \$350. Lew VK2LW, Ph. (052) 473441 A.H., (052) 49 2695 Du.

Atmic Mic., Model 100A, the dynamic which succeeded the D104, made especially for SSB, complete with stand, new, in original carton (surplus). Roth Jones VK3BG, 23 Gaudin Rd., Doncaster East, Vic. 3169.

Kenwood Communic. Rx GR-665, 0.1-30 MHz, incl. amateur bandspread, all solid state, 12V/240V, good cond., \$220. VK2ZD/NLD, Ph. Alice Springs 50 2359 (no STD), or write Box 1766.

Urgent—FT101E Transceiver for Novice use, 12 months old, perfect cond., \$650. ONO; Yaeus FRG7, perfect cond., very little use, \$240. ONO; HC 500A antenna matcher, 1.6-30 MHz, 8 months old, \$85; Hansen power meter, 100W max., coax switch—3 outlet, plenty of coax approx. 50-60m, laminated copper wire for 80m dipole, \$35. Ph. (03) 398 4853 A.H., or (03) 314 0344, Ext. 259, Bus. Ask for Alan VK5NDO.

Kenwood TS-820S, incl. DC-DC inverter, service manual, \$850; Hicake VS-53 Inband 3 ch. el. yag. 14 ft. boom, \$200, incl. balun; ext. speaker SP-820, suits TS-820S, \$60; Shure 44A 50k imp. mic., \$40; Emulator rotator 103LBX, 150 kg vertical load, \$150. VK5NPF, 8 Macintosh St., Mt. Gambier, Ph. (087) 25 2427.

Tech Model TE-15 QDO, as new, \$50.00. RTTY plug-in boards for STD demod., set of 5, \$26.40, UT-4 scan, etc., set of 4, \$21.00. Monitor scope, set of 2, \$5.50. AK-1 AFSP mod., auto CW ident., auto freq. control, each \$3.00. VK3ZY, QTHR, Ph. (03) 277 4746, after 6.00 p.m.

Kenwood TS-125V, mobile HF transceiver, with NC-355 noise cancelling microphone, \$500. Phil VK2VIL, Ph. (044) 24722 after 1700h EST.

10m conversion of Generalists GTX-3225 CB Transceiver. Covers 26.35-28.5 MHz and SSB 26W PEP. Two tone operation on both Tx and Rx, mic. in, had little use, suit noise. \$120 ONO. Jim VK5JL, Ph. (08) 293 6094.

FRG7 Communications Rx with narrow SSB filter, mint condition, \$280. EA, Jan-Feb. 19 55 MHz Tx with 4 x state, \$85. John Thurston VK2VFO, Corral, NSW, Ph. (042) 93 3508.

KW2000E Tavn, 160-10m, like new, AC power supply, \$550 ONO. Yaeus YD844 desk mic., \$40. Dick Smith transceiver 11 to 60, like new, \$80. CRO, \$100. ATU, suit 80m, two of \$15 ea. Ph. (052) 8 2421, after 18.30h.

Yaeus Mobile Antenna, complete roof-top set, RSL-3.5, RSL-7, RSL-14, RSL-28, plus RSE-M 2 (element and base), brand new in box. \$100. VK2AYV, Ph. (02) 328 2752.

Communications Rx Drake S8R-1, 0.5 to 30 MHz, solid state, battery and 240V AC, built in speaker and antenna, with handbook. \$200 ONO. VK2NHY, Ph. (02) 98 5507.

FTDX950, in mint cond., with all features as the FTDX401, \$450. 400W SWR/watt meter, 0-400W TX and 0-4000W, \$75. Both together for a cheap price of \$500. VK2RIM, QTHR, Ph. (047) 58 6569.

Complete RTTY station—Model 19 page printer, \$70; Model 14 tape distributor, \$20; Model 14 typing repeater, \$20; Motor and loop supplies, \$40; EA Terminal, \$50; Lot 170; All in perfect working order. Ham "M" rotator, \$100. VK2BLK, Ph. (057) 64 1238.

Icom IC211, as new, complete in original packaging \$500 ONO. Bob Anderson VK2ZXR, Ph. (02) 969 2695 or (02) 218 4848.

Kyokuto, in good condition with 10 kHz scanner added, \$200. TR7500, 2 months old, still in original carton, \$365. Willson 1402SM hand held, in good condition, Rept. 4, 8; Simp. 40, 50, 51 & 146.520, light duty rotor with 100m of cable to suit, unused, \$45. Richard Cowles VK2ANB (VK2NBN, QTHR), Ph. (02) 696 8403.

FT101, very good condition, \$550; FT101, new, \$100; IC202S, new, \$150; IC280, near new, \$330; TH6DX with Ham 2 rotator, complete, \$350. Peter VK3BEJ, QTHR, Ph. (050) 24 5814.

Linear Yaeus FL2100B, perfect, used only four times. Lee Wilms VK3AB, QTHR, Ph. (03) 20 1754.

Kenwood TS-58S, 240V AC, 12V DC, power supply, C. Weller, remote VFO, new 1287V driver, and new pair 6146Bs in final amplifier; all in excellent condition. For sale complete to first genuine offer. (Sydney area). Ph. (02) 487 1273.

Drake S8R1 Comm. Rx, 5-30 MHz, Wadley loop oct. batt. and AC operated, as new, in excellent cond., handbook and cct., \$230. Ph. (004) 25 3357.

ACI Marine Tow, 12-14V DC, solid state, broad-band, 20W SWR/CW, modified to 80/40m VFO control, 4 stat positions available, NB, RTT, meter, 290 x 100 mm x 300 mm, \$195 ONO. VK3MJ, QTHR, Ph. (03) 874 5832.

Deceased Estate—Kenwood TR2705G 2m Tcw, mint cond. w/manual, \$200; Trio 2m external VFO for above, \$100; 13.8V PS w/meter for above, \$30; Yaeus LP filter FR30X, \$10; Hansen desk SWR meter, \$15; Vibroxplex key, \$15; MC50 H/L 2 Kenwood desk mic., new, \$40; 28 MHz to 3.5 MHz ATU, \$30; 240V isolation transformer, \$10; 24 hour LED digital clock, \$20. VK2BEK, QTHR, Ph. (02) 476 5096.

Deceased Estate—Yaeus mic, 500 ohms PTT with plug, \$10; Pantronics boom mic. & ear phone MS50, 3000 ohms, \$40; B & W coax switch, \$10; Dow Key with 80H5 and instructions, \$8; Ant. note bridge, Mod. TE7-61, \$20; MD722 mic., \$10; Rola meter, \$5. Plus numerous tubes, coax, etc., please send for list to VK2DA, QTHR, Ph. (02) 84 1039.

WANTED

Large Reflex Horn Loudspeakers for PA work, also 16 or 20W 500 or 600 ohm drivers in good working order. VK3UJ, QTHR, Ph. (086) 65 3313.

SB-650 Matching Speaker for Heathkit HW-101 Transceiver, also SB-650 readout in any cond., and any useful information of mods. for HW-101, RTT, etc. VK5NCO, Ph. (08) 295 4072.

Urgently—2 x 813 Valve Sockets, good price paid. Errol VK2BET, QTHR, Ph. (02) 476 2933.

Drake T-4XC Tx and AC-4 power supply, R. Lyon VK6LX, QTHR, Ph. (09) 457 2262 AH, or (09) 277 2122 ext. 214, bus.

Remote VFO for Yaeus FT101E, also extension apr. Other Block and Yaeus aerial tuner. Instruction book for FTDX400. Ken Cassidy VK4QZ, QTHR, 14 Alice St., Townsville, Qld. 4814.

EXCHANGE

Swap FT101E AC/DC, near new and in mint cond., for linear amplifier, i.e. Deetron ML2500, Drake L84 or similar, cash adjustment either way if necessary. Ian Foster VK3ST, Ph. (051) 58 8311.

WMSKY Slow Scan TV Monitor, complete with circuits and alignment notes, wish to exchange for a solid state, 2m FM mobile transceiver. Steve VK3ZY, QTHR, Ph. (03) 277 4748 after 6 p.m.

TRADE HAMMOS

QSL Cards, Log Books, Contest Sheets—send 20c stamp for samples and prices to Linda Luther VK4VY, PO Box 498, Nambour, Qld. 4560.

Are you on frequency? Be on frequency with D51. Full range of top quality counters up to 1300 MHz, 0.1 parts per million accuracy. Quik-Kit 50 Hz-530 MHz cent kilohs, 95 per cent assembled, 100 per cent tested, 12 months part warranty, AC or DC operation, 8 digits in LED, accuracy 1 part per million. Special introductory price \$135, incl. postage. Write for further info or check ads in American QST, Ham Radio, etc. Australian distributors ATN Antennas, Box 60, Birchb. Ph. 3483.

CONTESTS

Wally Watkins VK2ZNN/NCGU
Box 1085, Orange 2800

June:
16/17 ALL ASIAN PHONE CONTEST
23/24 APRIL FIELD DAY
July:
14/15 IARU RADIOSPORT CHAMPIONSHIPS
August:
11/12 REMEMBRANCE DAY CONTEST

SILENT KEYS

It is with deep regret that we record the passing of—

Mr. W. B. MUDIE VK3XS
Mr. G. M. FOWLES VK5HG
Mr. K. W. M. MAGEE (VK3KM) YJRW

OBITUARY

WELL KNOWN QOT BECOMES SILENT KEY

Members of VK/CHC Chapter 66 wish to record their regret at the passing of IARU Evans, K6BX, founder and creator of IARF (International Air Society), CHC (Certificate Holders' Club), FHC (Flying Ham's Club), etc., etc.

CHC died at Bonita, California, on the 30th March, 1979. He was first licensed in 1914 and was an active ham for 65 years. One of his many outstanding accomplishments was the creation of Hamdon's largest ever Awards Programme and its first Directory, produced in book form, called the "D". He was also an outspoken critic of any activity in AR that he saw as unworthy of the service; this brought him into conflict with many people and groups.

The Awards Programme in particular and AR in general will never be quite the same again without him.

VK488 CHC 883

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Join a new Member
— NOW —



YAESU from DICK SMITH



WHEN YOU REALLY CONSIDER THE ALTERNATIVES - THERE ARE NONE!

COMPUTER TECHNOLOGY COMES TO VHF COMMUNICATIONS

AS REVIEWED IN
MARCH E.A.



FABULOUS YAESU FT227R
2m FM
MOBILE
\$335

WHAT ARE THE FREQUENCY SPLITS FOR REPEATERS?
Don't worry! Yaesu has computerised it. In addition to a conventional 1.600kHz split, any transmitter offset frequency is memorised with the touch of a button.

WHAT WAS MY LAST FREQUENCY?
Don't check - a touch of a button will bring you back to the memorised channel instantly.

WHY ONE KNOB TO SELECT A CHANNEL OUT OF 800?
Yaesu utilises an 'OPTICAL COUPLING' system to select each channel in 10kHz steps and the channel may be offset 5kHz higher with the touch of a button. Thus 800 fully synthesised channels are provided with one knob and no rotary switches to get oxidised or noisy.

WHAT ARE THE OTHER FEATURES OF THE 227R?
Many. Just to name a few - tone burst accessed repeater operation; automatic final protection; busy channel indicator; high and low power output selection... we could go on & on.

WHY SETTLE FOR ANYTHING LESS THAN THE 227R?
The fabulous FT-227R. Yours for the low, low Dick Smith price of only \$335.00. Cat. D-2890

GREAT CIRCLE WORLD MAPS: Ideal for the shack - based on Australian east coast. Mount under the rotator pointer for true bearings.
Cat B-4502 \$3.00
CLUBS - Apply on your club letterhead and we'll send you a copy of the world map FREE! (Limit one per club)

WORLD CALLSIGN MAP: Shows prefix on each country plus capitals and major cities, also DX zones. Cat B-2264 \$1.95

SHINWA TVI FILTER: We don't have to tell you how good the Shinwa is! 1dB insertion loss, 30MHz cut-off, max. attn from app. 50MHz.
Cat D-7080 \$19.50

2m 45W AMPLIFIER KIT: 8-12W of drive for 35-45W of output. F'glass pcb, instructions inc.
Cat K-3132 \$27.50

80m 30W AMPLIFIER KIT: Ideal for novice! F'glass pcb, 13.8V required. Full instructions.
Cat K-3133 \$34.95

AIR-WOUND COILS: Make your own antenna tuning units and high power linears. Separately boxed coils with full data.
Cat D-7050 (120mm) \$4.70
Cat D-7052 (140mm) \$5.50
Cat D-7054 (160mm) \$6.50
Cat D-7056 (180mm) \$7.90

OSKER BLOCK: The SWR & power meter for the amateur operator. Through-line type metering, 2kW rating.
Cat C-1340 \$67.50

G6-144 2M COLINEAR: 117" high for repeater or fixed operation. 1kW rating, low SWR. 6dB gain over 1/2 wave dipole.
Cat D-4200 \$89.00

WORLD ATLAS: A favourite with all DXers contains 20 pages of world maps. 4 colours.
Cat B-2268 \$3.90

CO-AX SWITCHES: Will handle 1kW at 150 MHz. Save \$4.00 while stocks last.
Cat D-5204 \$22.50 \$17.50

LOW POWER TYPE: Handles 150W at 30MHz (although we've used them at 144MHz).
3 positions: Cat D-5206 \$11.75

RG58RU CO-AX: Quality black co-ax at a bargain price - 30 cents per metre for 100 metres or more. 52 ohm, light duty.
Cat W-2090 40c/m 30c/m 100m+

UR67 CO-AX (RG8U): Low loss, ideal for feeder systems. Maximum signal transfer.
Cat W-2095 \$1.35/m \$1.13/m 100m+

PRE-AMPLIFIERS: For 27MHz, 52MHz & 144MHz. Mount in aerial circuit, fully tested units. Big savings NOW!
27MHz (ERB27) Cat D-3827 \$25.90
52MHz (ERB6) Cat D-3806 \$25.90
144MHz (ERB2) Cat D-3802 \$25.90
These were selling for up to \$39.00 each!

BUILD A BEAM: Our antenna brackets make it easy. Insulating nylon bracket accepts 10mm elements, up to 17mm boom.
Cat D-4650 \$5c ea

Cadmium plated brackets for larger beams - 17mm elements and 20mm booms.
Cat D-4652 \$1.00 ea

VHF TRIMMER CAPACITORS: Compression type, 1001 uses. 3 capacitance ranges:
1.5 - 20pF Cat R-2900 70c
7 - 60pF Cat R-2905 \$1.30
15 - 115pF Cat R-2910 \$1.75

VHF CONVERTERS: For 6 & 2 metres, output on 28-30MHz. 9-12V DC @ 15mA. Supplied complete with circuit. Save \$6.00 on each!
6 metre (EXC 6) Cat D-3836 \$29.50
2 metre (EXC 2) Cat D-3832 \$29.50
(Both these converters were selling for \$35.50!)

RAK BL50A BALUN: T shape, ideal for use as centre support for dipoles or yagis. 1kW rating.
Cat D-5310 \$21.50

A-580N ANTENNA: Deluxe multiband transmitting/receiving antenna. 80 thru 10m, full 2kW rating. Complete.
Cat D-4705 was \$51 \$39.50

CG-144 2M ANTENNA: 5.4dB gain over 1/4 wave mobile, suitable for any ball mount (not included). 200 watts rating. 88" high.
Cat D-4192 was \$49.50 \$29.50

4BT VERTICAL: Four band trap vertical covers 40, 20, 15 & 10. Optional 80m resonator (not included). 2kW rating, low SWR. Strong!
Cat D-4150 \$118.00

Optional 80 metre resonator for the 4BT V vertical: Cat D-4156 \$29.50

MOBILE ANTENNA BASE: Quality base designed for any antenna using the standard 3/8 24TPI thread. Through-roof mount (5/8" hole required) Cat D-4056 \$4.50

VHF WHIP ANTENNA: Suitable for 70 to 500 MHz depending on cut. Stainless steel & chrome, use with above base. Cat D-4015 \$5.00

BALUN KITS: Contains a quality ferrite ring with enamelled copper wire and winding details for baluns from 1:1 to 1:9 ratio. Save \$3.50 - was \$12.50! Cat D-5350 \$9.00

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THE 1978 DICK SMITH SUPER-CATALOGUE WAS IN ELECTRONICS AUSTRALIA LAST MONTH.

If you missed out, copies are still available from your nearest Dick Smith store or dealer for only 75c. Also available through the mail order department - P.O. Box 747, Crows Nest, NSW, 2065.



Quality ham gear from VICOM

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CL570	DAIWA 1.9 - 28 MHz 500w pep	139.00
CNW217	DAIWA incl. SWR/PWR, direct reading, 200w	190.00
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MFJ901	Matches everything 1.8-30 MHz	103.00
MFJ16D10	Random wire tuner 160-10m	75.00
MFJ941	160-10m, 300w, incl. SWR/PWR	133.00

ANTENNA ROTATORS

DR760GS	Heavy duty with controller & mast clamps	289.00
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6 CORE	Cable for above (200m roll)	1.00/m

COAXIAL SWITCHES (DAIWA)

CS201	2 position, high power, up to 500 MHz	26.00
CS401	4 position, high power, up to 500 MHz	81.00

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CX-2L	1.8 thru 170 MHz, 100w pep max	46.00
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FD30M	32 MHz Fc, 1 Kw, 3 stages, quality	39.00
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V5JR	80-10m trap vertical, 6.7m high	129.00
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AIRCRAFT MONITORING RECEIVER



- ★ 16 Channels (4 crystals supplied)
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synthesised handheld

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LOOK!



ICOM IC-402 432 MHz SSB & CW portable

Frequency range 430-435.2 MHz in any 200 KHz bands • Power output 3 watts PEP SSB • CW, USB, LSB • Receiver sensitivity 0.5 UV at 10 dB SINAD. Provisions for external antenna & power sources • BC-20 nicad battery pack & charger optional



ICOM IC-202S 2m SSB portable

The IC-202 features: • Frequency coverage: 144-146 MHz • Modulation: ASJ and A1 • RF output power: A3J 3 watts (PEP), A1 3 watts • Sensitivity: 0.5 microvolts at (S+N)/N 10 dB or better • Includes a true IF noise blanker • Requires "C" batteries or external 12 volt source.



ICOM IC-211 2m transceiver

- 144 to 146 MHz coverage • Modes: SSB, CW, FM • LSI synthesizer PLL
- 4-digit LED readout • Pulse-type noise blanker • VOX w/adjustable gain • SWR bridge • CW monitor
- Automatic power control • AC/DC power supplies • Antenna impedance 50 ohms unbalanced • TX output: 10W PEP



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